

SEMANTIC APPROACHES TO QUOTATION, METONYMY AND COMMONLY USED

VERBS

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SEMANTIC APPROACHES TO QUOTATION, METONYMY and COMMONLY USED VERBS

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This dissertation is a collection of three papers in which I apply underappreciated resources to solve puzzles at the interface between semantics and pragmatics.

The first paper defends an unpopular semantics for quotation: the Proper Name Theory (PNT). According to the *Stanford Encyclopedia of Philosophy*, “...the unanimous consensus is that [the PNT] fails miserably.” I defend the PNT by supplementing it with a *metasemantic* account of quotation formation. While semantics is the study of how lexical items *are* associated with meanings, metasemantics is the study of how lexical items *come to be* associated with meanings. I articulate the Quotation Convention (QC), a metasemantic convention for introducing quotations into the lexicon. None of the standard objections apply to the PNT as supplemented by the QC. Furthermore, the PNT is the only available theory that accounts for both markless quotation and quotations of non-linguistic material.

The second paper investigates metonymy—where a nominal's denotation seems to shift to a saliently related entity. I argue that metonymy is highly conventional. Metonymy is constrained and interacts directly with the inflections of verbs. I incorporate metonymy into a semantic rule system by making use of optional semantic rules. Though theorists have avoided optionality in semantic rule systems, I argue that optionality is necessary for a satisfying semantic account of metonymy.

The third paper looks at commonly used verbs such as 'make' and 'open'. Most contextualists assume *underspecification* for these verbs—that impoverished lexical knowledge must be supplemented by non-linguistic cognition. I argue for an alternative account, *overspecification*, in which the role of non-linguistic cognition is to select pieces of rich and specific lexical knowledge that are relevant to the utterance situation.

BIOGRAPHICAL SKETCH

Zachary Abrahams was born and raised in Halifax, Nova Scotia Canada where he attended Saint Patrick's High School, graduating in 2001. He matriculated to McGill University, where he received a Bachelor of Arts degree with First Class Honours in Philosophy and a minor in Economics in 2005. He began graduate studies at Cornell University in August of 2005, receiving an M.A. in Philosophy in 2008.

DEDICATION

to Ron and Joanne Abrahams

to Cori A. Winrock

and to little Newton (with a hint of backwards causation)

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Chapter 1 - In Defense of the Proper Name Theory of Quotation

1.1. The Proper Name Theory of Quotation

The Proper Name Theory of Quotation (PNT) gets a lot of bad press these days. The PNT holds that, like proper names, quotations are syntactically and semantically simple—they have no semantic or syntactic constituents. According to Paul Saka, the PNT is “an utter failure.” (Saka 1998) In the Stanford Encyclopedia of Philosophy Herman Cappelen and Ernest Lepore claim that, “It is almost a tradition in the literature on quotation to include a brief dismissive discussion of the Proper Name Theory. It no longer is defended by anyone and there is even some debate about whether Quine and Tarski ever held the view. ... Today the view gets discussed primarily for heuristic purposes.” Cappelen and Lepore present “some of the reasons why the unanimous consensus is that [the PNT] fails miserably.” (Cappelen and Lepore 2012). In this paper I challenge that consensus. I claim that the arguments against the PNT are far weaker than they have been taken to be. The standard objections to the PNT point to facts that the PNT is incapable of explaining. I claim that the PNT qua semantic theory does not need to explain these facts.¹ Instead, we can supplement the PNT with a natural *metasemantic* account of how quotation-expressions are introduced into a language, a metasemantic account that can easily explain the requisite facts. With this metasemantic supplement the PNT is a compelling account of quotation—the only available approach that accounts for both the special syntactic properties of quotations and quotations that lack special graphic or phonological markings, i.e. *markless* quotations.

¹ I'm assuming a fairly “thin” notion of explanation. In order for a theory to explain a fact or phenomenon, it is enough for the fact or phenomenon to be derivable from the theory. In using this thin notion of explanation, I take myself to be following standard practice in contemporary philosophy of language and linguistics and in particular I take myself to be following a standard practice in the literature on quotation. In the SEP entry on quotation (Cappelen and Lepore 2012), for example, Cappelen and Lepore identify features of quotation such as “BQ1. *In quotation you cannot substitute co-referential or synonymous terms salva veritate.*” of which they say, “[n]o theory of quotation is adequate unless it explains this feature...” They also note “BQ2. *It is not possible to quantify into quotation.*” of which they say “[a]n adequate theory of quotation must explain why not.”

Quotation is one way of using linguistic expressions to denote linguistic expressions.² It is not the only means of doing so. In sentences such as (1) a definite description, 'the first word in the dictionary,' denotes a word.

(1) John uttered the first word in the dictionary.

Unlike the above example, in cases of quotation the denoting expression is interestingly similar to the denoted expression. In written English the only orthographic difference is usually a set of quotation marks. In oral English there is generally no phonological difference between the denoting expression and the denoted expression.

For the sake of clarity let us call the denoting expression 'the quotation-expression'. For example in (2) “ 'kittens' ” is the quotation-expression.³ We can call the denoted expression 'the denotation-expression'. In (2) 'kittens' is the denotation-expression.

(2) John uttered 'kittens'.

The PNT is a theory of how quotation-expressions are related to their denotations.⁴ As

2 There is controversy over what exactly the denotations of quotation-expressions may be. Are they linguistic types, linguistic tokens or both? (Garcia-Carpintero 1994), for example, claims that quotation is flexible in that that quotation expressions can denote either types or tokens depending upon the context. Can a quotation denote a phonological structure, or must there always be a related orthography, and vice versa? In some of the cases I discuss below we have quotations of nonsense expressions. Cappelen and Lepore have argued that we can also have quotations involving non-linguistic symbols, as in (i) from (Cappelen and Lepore 2007 23)

(i) '☺' will be stamped on the forehead of every semantic minimalist

Identifying exactly what quotations denote is a difficult task, but it isn't necessary for my purposes here. My view is compatible with any of the many reasonable answers to these questions. I will continue saying that quotations denote linguistic expressions; but I use 'linguistic expression' in an extremely loose way, to potentially cover nonsense utterances and certain non-linguistic symbols. I use 'well-formed linguistic expression' when I want to restrict myself to grammatical sentences or well-formed subsentential expressions.

3 There is an interesting question about what we should identify as the quotation-expression. Davidson in (Davidson 1979) claimed that the denoting-expression is *just* the quotation marks, and that the material enclosed in the marks is not actually a part of the sentence. (Washington 1993) holds that the quotation-expression is *just* the enclosed material and that the marks are a mere orthographic convention that do not correspond to any natural language constituent. I discuss the status of quotation marks in more detail below.

4 There are difficulties with characterizing what exactly counts as quotation. There may very well be different kinds of quotation that require very different treatment. For example, I argue below that so-called hybrid quotations will require a different kind of treatment from the examples I primarily discuss. The lines are blurred even further if we consider other phenomena such as role-shifting in sign languages and indirect discourse. For my purposes, I will follow much of the philosophical literature on quotation in discussing the phenomenon characterized in the main text, for which I believe I can provide a unified treatment. Still, I recognize that there are a variety of connected, similar phenomena that might require different approaches.

mentioned above, according to the PNT quotation-expressions are semantically and syntactically simple: quotation-expressions do not have any meaningful constituents that need to be combined. A single denotation is assigned to each whole quotation-expression. Furthermore, according to the PNT, a semantic theory will contain a rule that directly assigns a denotation to the quotation-expression. Assigning a denotation to a quotation-expression does not require any appeal to contextual parameters. The quotation-expression is essentially a proper name that names the denotation-expression. This point is illustrated in (3):

(3) 'Cats are cute' is a sentence.

Though the quotation-expression in (3) might appear to be made up of multiple words, according to the PNT “ 'Cats are cute' ” is an atomic expression whose denotation, the sentence 'Cats are cute', is assigned directly from the lexicon.⁵

Though the PNT is often attacked, even its detractors recognize that the PNT has several obvious benefits. We can neither quantify into quotation-expressions, nor can we substitute proper parts of quotation-expressions with co-referential terms while preserving truth value. For example we cannot infer (4b) from (4a).

(4a) 'Fluffy est mignon' is a sentence of French.

(4b) $\exists x.$ 'x est mignon' is a sentence of French.

'Fluffy est mignon' is a sentence of French, but 'x' is not a lexical item in French. So, (4a) is true but (4b) is false and hence the inference from (4a) to (4b) is invalid.

Similarly (5a) and (5b) do not entail (5c).

⁵ In discussions of the PNT, we should be wary of putting too much weight into the moniker 'Proper Name Theory'. The standard use of this moniker is based on the assumption that proper names are semantically simple expressions that serve as simple labels for their denotations. One could in principle reject this view of how actual proper names function while still holding that quotation-expressions are semantically and syntactically simple. Despite the fact that 'the Quotations are Semantically Simple Theory' might be a better moniker, I will abide by the standard use and refer to the theory as 'the Proper Name Theory'.

(5a) John said 'Fluffy is cute.'

(5b) Fluffy is Sam's cat.

(5c) John said 'Sam's cat is cute.'

If quotation-expressions are semantically and syntactically simple we have a clear explanation for why we cannot quantify into them or intersubstitute their putative constituents with co-referential expressions *salva veritate*. We can only perform these operations on constituents of complex expressions. We cannot, for instance, quantify into a simple expression, nor can we substitute a part of a simple expression with a co-referential expression. Neither (6b) nor (6c) follow from (6a), though if we could quantify into simple expressions, or substitute parts with co-referential terms, they ought to follow from (6a).

(6a) John sails a catamaran.

(6b) $\exists x$. John sails a xamaran.

(6c) John sails a felineamaran.

Though the preceding arguments provide us with interesting data, they do not by themselves militate in favour of taking quotation-expressions to be semantically and syntactically simple.⁶ There are other linguistic constructions, such as modal constructions and propositional attitude ascriptions, that are also arguably referentially opaque—that do not allow quantifying in or the intersubstitution of co-referential terms *salva veritate*. However, two properties of quotations distinguish them from other opaque constructions and make a PNT approach particularly compelling. Firstly, the

⁶ One might wonder whether proper names themselves are syntactically simple. Isn't 'Barack Obama' a syntactically complex name made up of two simpler names 'Barack' and 'Obama'? However such complex proper name are still generally composed of simpler names. Some apparently structured names actually seem to be simple. "The United Nations" for examples doesn't admit of adjectival modification in the way we would expect if it were syntactically complex.

?(ii) The Great United Nations met yesterday in New York.

Regardless, the important point for my purposes is just that quotations appear to be syntactically simple for the reasons explored above.

quotation-expression always seems to play the syntactic role of a noun phrase regardless of the syntactic properties of the denotation-expression.⁷ Secondly, we can use quotation in cases in which the quoted material is not itself a well-formed linguistic expression. The complements of modal operators and propositional attitude verbs do not have these properties. Let us look at them in more detail.

Quotation-expressions, at least those I am currently discussing, have the syntactic properties of nominals (nouns) regardless of the part of speech to which the denotation-expression belongs. Even though 'jumped' is a verb, in (7) “ 'jumped' ” is functioning as a nominal.

(7) 'Jumped' is a linguistic expression.

The PNT can provide a quick explanation for why quotation-expressions behave as nominals regardless of the syntactic properties of the quoted material—quotation-expressions are syntactically simple nominals, which is a feature of proper names generally. Propositional attitude verbs (and modal operators) have complements that are full clauses and that can engage in syntactic behaviour that requires structure.

(8a) Willa believed that Ted hit the ball.

7 Francois Recanati has claimed that we should distinguish two kinds of quotation: closed quotation, where the quotation-expression appears to be a singular term, and open quotation, where the quotation-expression does not appear to be a singular term. For instance see (iii) from (Recanati 2010 231)

(iii) Stop that John! 'Nobody likes me', 'I am miserable' ... Don't you think you exaggerate a bit? Recanati claims that in (iii) the quotation-expressions “ 'Nobody likes me' ” and “ 'I am miserable' ” are not functioning as singular terms, and hence are open quotations. I think Recanati is right to focus attention on cases of quotation where the quotation-expression might not be a singular term, but his project is compatible, in broad terms, with my project here, which is specifically to help explain what is going on *when* quotation-expressions function as singular terms. I discuss this issue in more detail when I discuss hybrid quotation below. That said, I'm a bit suspicious of examples like (iii). We can construct examples parallel to (iii) that use paradigmatic singular terms.

(iv) Stop that John! Bubbles. Mr. Fins. Goldilocks. Don't you think you need to stop killing your goldfish?

Interestingly, such constructions are far more awkward if we try to use predicates rather than nominals.

?(v) Stop that John! Ran. Back-flipped. Jumped. Don't you think you've proven you're a good athlete?

?(vi) Stop that John! Happy. Sad. Angry. Don't you think you need some emotional stability?

(I use '?' to mark odd sentences that are somewhere between obviously acceptable and obviously unacceptable.) The hybrid quotation cases I discuss below seem more clearly to be cases where the quotation is not primarily playing the role of a singular term.

(8b) What did Willa believe that Ted hit?

Standard syntactic theories take (8a) and (8b) to both be derived from a single underlying form, but this requires that “that Ted hit the ball” is a whole clause with internal structure and not a simple nominal.

We cannot form analogous questions from sentences with direct quotations, which suggests that quotation-expressions lack the syntactic structure had by the complements of propositional attitude verbs. Attempting to perform a parallel extraction leads to a deviant sentence.

(9a) Willa said “Ted hit the ball.”

*(9b) What did Willa say “Ted hit?”

We can also form quotation-expressions that denote ill-formed sentences or nonsense words that themselves are not well-formed linguistic expressions.

(10a) 'Be the going to smell of apples moldy' was what the strange man uttered.

(10b) 'gleerg' doesn't appear in any dictionary.

(10c) John exclaimed, 'glhhhhhhhhhhhhrrrg.'

If quotations are complex well-formed linguistic expressions, the constituents of quotations presumably must also be well-formed linguistic expressions. However, 'gleerg' and 'glhhhhhhhhhhhhrrrg' are not themselves well-formed linguistic expressions as they are not contained in the lexicon. While “be the going to smell of apples moldy” might be made up of well-formed linguistic expressions, the sentence formation rules given by syntactic theories will not be able to generate this particular complex expression; hence the complex expression will fail to be a well-formed linguistic expression. The fact that we can quote nonsense also distinguishes quotation from other referentially opaque constructions. We cannot include nonsense terms in modal constructions or propositional attitude ascriptions.

*(11a) It is necessary that glhhhhhhhhhhhhrrrg.

*(11b) John believes that glhhhhhhhhhhhhrrrg.

*(11c) John believes glhhhhhhhhhhhhrrrg.

It is hard to see how complex expressions with non-linguistic constituents could be generated by standard syntactic theories. Syntactic theories describe operations that combine constituents to form complex linguistic expressions in virtue of the syntactic properties of the constituents. Since symbols like 'glhhhhhhhhhhhhrrrg' are not in the lexicon, they don't have any syntactic properties. They don't belong to syntactic categories (like 'noun' or 'verb') and they do not have agreement features (like person or number). Since such symbols don't have syntactic properties, they cannot be used by rules that require syntactic properties. Standard syntactic theories do not include any operations that act upon non-linguistic symbols, and it is not clear how syntactic theories could be extended to do so.⁸ According to the PNT, 'be the going to smell of apples moldy' is a syntactically and semantically simple proper name. Given the PNT, we don't need to posit any syntactic or semantic operations that act on non well-formed linguistic expressions, since the quotation-

8 There are several reasons why we should be wary of thinking we can extend syntactic theories to accommodate such non-lexical constituents.

The first reason is that qua philosophers we should be wary of proposing major modifications to syntactic theories. Just as philosophers of biology should hesitate before proposing substantive modifications of first-order biological theories and philosophers of physics should hesitate before proposing substantive modifications of theories in physics, philosophers of language should be humble about proposing modifications to syntactic theories. Syntax is a rich and complex domain of study in its own right, and we should be wary of declaring syntacticians to be systematically wrong about their own field.

The second reason stems from the fact that on contemporary approaches to syntax such as the Principles and Parameters approach or the Minimalist Program, there has been a shift away from explaining sentence formation in terms of phrase structure rules (like "S → NP VP" roughly the rule that a sentence is made from a noun phrase and a verb phrase) and instead relying on lexical properties of constituents to constrain directly how the constituents can combine with other constituents to form complex expressions. Since putative non-linguistic constituents are not in the lexicon, such constituents don't have any lexical properties and hence there is no way to combine them with other constituents.

One might respond that we could still allow non-linguistic constituents into the language: perhaps they should be assigned default lexical properties. To anticipate a concern that will be arising shortly, however, such a move could make it hard to see how syntax is used to generate an infinite number of sentences from a finite number of atoms. This motivation: explaining how beings with finite cognitive capacities can be competent with infinitely many distinct sentences, is a key motivation behind generative grammar. Allowing non-linguistic items directly into syntax, however, introduces infinitely many atoms to the language, and hence makes a mess of this standard motivation for generative grammar.

expression does not have any constituents.⁹

The final benefit of the PNT is that it is simple and straightforward. This is why even theorists who reject the PNT outright feel obligated to discuss it. It is treated as the naïve default position whose flaws show us how to develop a more sophisticated approach.¹⁰ If those flaws fail to materialize, however, there is something to be said for the simple, obvious approach.

1.2. Objections to the PNT

So why has the PNT been so thoroughly rejected? There are five main objections I will address: the objection from infinitude, the objection from novel uses, the objection from disquotation, the objection from the special relationship, and the objection from hybrid quotation.

The objection from infinitude: It is a standard assumption that all natural languages contain an infinite number of complex linguistic expressions. This infinitude poses a *prima facie* problem for accounts of linguistic competence. How can a being with finite cognitive capacities fully grasp a language with infinitely many complex expressions? Given that humans have finite capacity in their memories, humans are only capable of directly encoding the meaning of finitely many expressions in a lexicon. The standard answer to this puzzle is that each complex expression can be constructed using a finite number of rules applied to a finite number of lexical atoms. A speaker must only be competent with the finite rules and the finite atomic expressions in order to be capable of using any of the infinitely many complex expressions.

Any one of those infinitely many complex expressions can be used as the basis for forming a quotation-expression. As a result there will be an infinite number of distinct quotation-expressions in

9 This kind of puzzle is used by Paul Postal to argue that we should abandon standard approaches to generative grammar. (Postal 2004 Ch. 6). He argues that standard generative grammar, with its assumption of a fixed lexicon cannot accommodate syntactic operations on alexical items (symbols not in the lexicon). I agree with Postal that we should be wary of assuming a static lexicon, but given the PNT, together with the metasemantic quotation convention I describe below, we do not have to posit any syntactic operations on alexical items.

10 The PNT's failure "reveals something about how to go about constructing an acceptable theory of quotation." (Cappelen and Lepore 2012)

any given language. However, according to the PNT, quotation-expressions are semantically and syntactically simple. That is to say, the set of quotation-expressions is a subset of the atomic expressions of the language. Therefore, the PNT in conjunction with the claim that there are an infinite number of quotation-expressions entails that the language contains an infinite number of atomic expressions. But this seems to make it impossible for a being with finite cognitive capacities to grasp the language. The explanatory burden of the PNT is to explain how we could be competent with infinitely many quotation-expressions if they are syntactically and semantically simple.

The objection from novel uses: We are capable of quoting nonsense and perhaps even non-linguistic symbols.¹¹ Speakers of a language are capable of understanding novel nonsense quotations. Take the following as an example:

(12) Samantha looked up at her computer screen and saw
'aslfjdjalksjfahsgqheghghggg.' She must have fallen asleep on her keyboard.

Most speakers have never before encountered the string 'aslfjdjalksjfahsgqheghghggg' nor have they encountered the quotation-expression “ 'aslfjdjalksjfahsgqheghghggg' ”. Still, a competent speaker will immediately fully comprehend (12) and know what the quotation-expression denotes. With most proper names, we cannot automatically glean the referent of the name by observing an occurrence of the name. In cases of quotations, however, we automatically seem to know what the quotation-expression denotes. The PNT seems to have no explanation for the ease of comprehending sentences involving novel quotation-expressions.¹²

The objection from disquotation: The disquotational schema is often thought to be a truism.

¹¹ (Cappelen and Lepore 2007) present a number of such examples. See ft. 2.

¹² As Saka puts the problem “Of course the Name Theory is an utter failure, since the quote mark is a systematically productive device that can be applied to expressions that we have not ever heard quoted before. This argument is so obvious that one wonders whether Tarski and Quine could have seriously meant that quotations in natural language function just like proper names. (Richard 1986) and (Bennett 1988) think that they used “name” in the sense of a denoting phrase or singular term, and I would too if it were not for the fact that Tarski and Quine are both so clear about denying that quotations contain meaningful structure.” (Saka 1998)

(DS) $[\Phi]$ is true iff Φ .¹³

From the disquotational schema, we can derive particular instances of disquotation:

(13a) 'Grass is green' is true iff grass is green.

(13b) 'Fluffy is cute' is true iff Fluffy is cute.

Presumably the explanation for why every instance of the disquotational schema is true has something to do with the nature of quotation. But given the PNT, or so the argument goes, there is no such explanation forthcoming.¹⁴ Since quotation-expressions that denote sentences are just taken to be unstructured proper names, there is no obvious explanation for why disquoting should preserve truth.

The objection from the special relationship: There is a special relationship between quotation-expressions and their denotations, one that can be seen most clearly in cases of iterated quotation.

Take the expressions “ 'fruit-bat' ” and 'fruit-bat'. In some sense, “ 'fruit-bat' ” seems to contain 'fruit-bat'. However this containment relation does not merely hold in this one case—it holds generally for all cases of iterated quotations. Not only do all actual iterated quotations appear to contain the denoted expression, but it seems any possible iterated quotation must do so as well. The linguistic form 'fruit-bat' does not denote fruit-bats in every possible world. There are possible worlds where a language is spoken that is broadly like English, but where the linguistic form 'fruit-bat' denotes lawn chairs. Still there is, according to the objection, no possible world where a language broadly like English is spoken but where the linguistic form of “ 'fruit-bat' ” is used to denote the expression 'lawn chair'. But the connections between proper names and their denotations

13 'Φ' is being used here as a schematic letter for which we can substitute any sentence. The quotation marks in (DS) should be understood as corner quotes. When we instance a formula containing corner quotes, after we have substituted appropriate expressions for occurrences of schematic letters, such as 'Φ', we replace the corner quotes with normal quotation marks.

14 This argument is raised as the first objection to the PNT in (Cappelen and Lepore 2007 101)

are supposed to be arbitrary. The PNT has no explanation for this non-arbitrary, systematic connection between quotation-expressions and their denotations.¹⁵

The objection from hybrid quotation: So far, I have focused all of my attention on cases where the quotation-expression's function is to denote a linguistic expression or related symbol. There are many cases of quotation, however, where the quotation-expression seems to be playing two distinct roles in the interpretation of a sentence.

(14a) John said that he never wanted to 'jump from a plane like a crazy person' again.

(14b) John said that he never wanted to see 'that sniveling idiot' again.

In (14a) the quotation-expression is not just denoting a linguistic expression: it also seems to denote a class of skydiving events of which John said he never wants to partake in again. In using (14a) a speaker is drawing attention to the specific linguistic expressions that were used by John in order to convey that content. Treating hybrid quotation-expressions as singular terms leads to serious difficulties. For instance, in cases of hybrid quotation we cannot substitute a co-referential term for the quotation-expression. The result would not be a well formed sentence. We cannot substitute 'that phrase' for “ 'jump from a plane like a crazy person' ” in (14a), even though both expressions have the same denotation. The result of attempting this substitution, (14c), is not a grammatical sentence of English.

*(14c) John said that he never wanted to that phrase again.

The PNT supposedly holds that the quotation-expressions in (14a) and (14b) are proper names of linguistic expressions, but the quotation-expressions in (14a) and (14b) do not seem to have the syntactic properties of proper names. The syntactic role of the quotation-expression in (14a) is that

15 Donald Davidson raises a form of this objection. “If quotations are structureless singular terms, then there is no more significance to the *category* of quotation-mark names than to the category of names that begin and end with the letter ‘a’ (‘Atlanta’, ‘Alabama’, ‘Alta’, ‘Athena’, etc.). On this view, there is no relation, beyond an accident of spelling, between an expression and the quotation-mark name of that expression.” (Davidson 1979)

of a verb phrase, and not a noun phrase.

Having laid out this battery of objections, it is important to note that they share an underlying property: all are arguments from explanatory inadequacy. They all point to a fact about quotation and then claim that the PNT has no grounds for explaining that fact.

The facts are as follows:

(F1) A being with finite capacities can be a competent user of a language with infinitely many atomic quotation-expressions.¹⁶

(F2) We easily understand novel quotation-expressions.

(F3) The disquotational schema holds.

(F4) There is a special non-arbitrary relationship between quotation-expressions and their denotations.

(F5) There are occurrences of hybrid quotation.

One problem with arguments from explanatory inadequacy is that they require that the relevant explanatory burdens actually fall to the theory under discussion. I grant that the PNT alone is not capable of explaining (F1)-(F5), but I claim that it is not the responsibility of the PNT to do so in the first place. The PNT is a theory of the *semantics* of quotation-expressions. We can accept the PNT as a semantic theory and then provide a supplementary explanation for (F1)-(F5). There is a natural *metasemantic* account of quotation-expressions that answers all of the explanatory burdens.

1.3. Metasemantic Conventions

Semantics is the study of how linguistic expressions are associated with meanings. It includes

¹⁶ There is also a more radical interpretation of the objection from infinitude that goes beyond claiming the PNT lacks a way of explaining how natural languages users can be competent. The more radical interpretation holds that the PNT is logically incompatible with natural language users being competent. While versions of the objection from infinitude might be put in this way, the more radical version of the objection relies implicitly on a stronger version of F1. It requires not just that the PNT fails to provide the relevant explanation, but that there is no way to provide that explanation. I will argue below that we can provide such an explanation. If my response to the weaker version of the argument holds, then, it will also undermine the more radical version.

studying how simple linguistic expressions are assigned simple meanings, as well as how meanings can combine to form complex meanings in accordance with syntactic structures. Taking a page from (Kaplan 1989b), we can say that metasemantics is the study of how linguistic expressions *come to be associated* with their meanings. For an example, let us turn to Fluffy the cat. On the one hand, a semantic theory will tell us what semantic value is associated with the name 'Fluffy.' The semantic theory will contain a clause such as:

(15) 'Fluffy' denotes Fluffy.

A metasemantic theory, on the other hand, will explain how that particular cat ended up being associated with the name 'Fluffy.' A metasemantic theory might model the reasoning behind Fluffy's original baptism as well as the mechanisms whereby the name 'Fluffy' became fixed and was transmitted to other language users.¹⁷ These two kinds of theories, semantic and metasemantic, are distinct though they may at times influence each other. For the most part we can proceed in articulating and testing particular semantic theories without worrying about how the associations modeled by the semantic theories have developed. This relative autonomy is important because metasemantics is often thought to involve messy sociological and psychological questions.¹⁸ We are

17 Kaplan makes this distinction clearly in (Kaplan 1989b 573-576).

"The fact that a word or phrase *has* a certain meaning clearly belongs to semantics. On the other hand, a claim about the *basis* [emphasis throughout is Kaplan's] for ascribing a certain meaning to a word or phrase does not belong to semantics. ... [T]he fact that 'nauseous' used to mean *nauseating* but is coming to mean *nauseated* is a historical, semantic fact about contemporary American English. But neither the reason why the change in semantic value has taken place nor the theory that gives the basis for claiming that there has been a change in meaning belongs to semantics. For present purposes let us settle on *metasemantics*." (Kaplan 1989b 573-574)

Kaplan is clear that metasemantic facts ought not to be represented within the semantic theory itself.

"Where within the formal theory do I take account of the locus of *creation of character*, the *assignment* of meanings that is presupposed in the notion of an interpreted language? Where within the formal theory do I take account of such metasemantical matters as constraints on the kinds of dubbings allowed? I do not." (Kaplan 1989b 613-614)

18 As Michael Glanzberg puts it: "Metasemantics, especially the metasemantics of contextual parameters, is a notoriously messy subject, about which we understand relatively little. This is no failure of any given semantic analysis. For instance, though it falls on the simple side of metasemantics, it is already a very messy issue just how demonstrative objects are identified. However messy this may be, it is no reason to reject the semantics which says a demonstrative picks out a demonstrated object. Difficulties in the metasemantics here do not make us doubt the semantics itself." (Glanzberg 2007 23)

far from having a full understanding of what metasemantics amounts to or from having any complete metasemantic theories.

Still, metasemantics is not *always* too messy to be worth discussing. Even in the case of proper names for people there are defeasible conventions about how people may be named. For instance, by convention, the name 'Gary' is generally given to males and the name 'Katerina' is generally given to females. These conventions are defeasible—some accepted names won't abide by them—but they are genuine social conventions. If one hears a sentence such as (16), one can make a reasonable inference about Gary's gender.

(16) I'd like to introduce you to my friend Gary.

'Gary' as used in (16) carries (defeasible) information about gender, but one needn't claim that this information about gender is carried by the *semantic* content of 'Gary'. Instead the gender-information is available to us because of our knowledge of the metasemantic conventions under which the name 'Gary' came to be associated with Gary. We know that there is a convention that 'Gary' is generally reserved for males and we also know that Gary was likely named under that convention. It is this knowledge that justifies our inference that Gary is likely male. The gender information is carried by the name because of the metasemantic process that went into the creation of the association between Gary and 'Gary' and not because of "Gary"'s semantic content.

In the 'Gary' case there is no *guarantee* that 'Gary' denotes a male, which is exactly what we would expect given the relative weakness of the conventions that dictate first-name-giving in contemporary Western culture. While 'Gary' is normally reserved for male children, this convention can be ignored or flouted. That said, it is not difficult to imagine groups of language users who adhere strictly to stringent metasemantic conventions on naming. Knowing that a name was coined by such a group, together with knowledge of the relevant naming conventions, can allow agents to

reliably infer a great deal of information about the name's denotation without any need for that information to be semantically encoded.

Imagine a culture, the Orderists, who have a strict policy of naming children by the order in which they were born in a given year. The first child to be born in a year is named '1', the second '2' and so on. These can be genuine names: the fact that Orderists will only socially sanction names that satisfy this convention does not entail that semantically the names are less than directly referential. We can use standard tests to argue that Orderist names are genuine proper names. Orderists could utter sentences such as the following:

(17) If 1 had been born a week later, 1 would have been born after 2.

(17) suggests that '1' and '2' designate rigidly. To make sense of (17) we must assume that '1' refers to 1 relative to a world in which 1 was not the first child born in that year.

Knowing that a name is an Orderist name, together with knowing the Orderist naming convention, allows one to reasonably infer information about the name's denotation. The information about birth-order is conveyed by our knowledge of the metasemantic convention and not by the semantic content of the expression.

Though the Orderists are an invention, many actual cultures engage in fairly stringent naming practices. Jewish people are traditionally given Hebrew surnames, used in religious ceremonies, that follow certain set rules: a child's surname is determined by gender and the name of the father or mother. A male child is given the surname 'son of [father's name]' and a female child is given the surname 'daughter of [mother's name.]' For example, if Tsvi is the son of Reuben, he will be given the surname 'ben Reuben'. We can accept that these are genuine proper names while invoking our knowledge of the naming convention to explain how we infer information about an

individual's ancestry.^{19 20}

The importance of metasemantic naming conventions becomes even clearer if we consider generating names for entities other than humans. A laboratory might settle on a productive convention for naming test subjects. These conventions might lead to names like 'Yellow 17' or 'Blue 123123'. Here we have productive metasemantic systems. There are an infinite number of possible names that can be created through the use of these conventions; the fact that the name was created under that convention can be used to convey information about name's denotation and the denotation's role in the corresponding experiments.²¹ Similar to the lab example, software engineers often put a great deal of effort into creating productive naming conventions for the naming of programming tools such as classes and libraries of functions. Naming conventions make it easier for programmers to understand how a given library might fit into a broader architecture. Still, the information conveyed by these programming naming conventions is not semantically encoded in the

19 Similar patronymic and matronymic conventions are historically extremely widespread. Many Scandinavian and Slavic countries had versions of these conventions. Such conventions are also the seed of the 'Mac' or 'Mc' in many Irish and Scottish names, as well as being the source of common English names like 'John^{son}' and 'Peterson,' to name just a few of the many examples.

In fact, contemporary Western practices include a strict convention about the giving of surnames. Until relatively recently, a child was virtually always given their father's surname. The convention has expanded to allow children to receive their mother's surname (in cases where it differs from the father's) or a surname constructed from both the father and the mother's surnames. However, it is rare for a child to not be given a surname that stems from their parents.

20 One might suspect that Orderist names are rigidified definite descriptions rather than genuine proper names. In ft. 25 below I address some further considerations that suggest Orderist names are genuine proper names. However, we should note that the kind of objections Scott Soames raises to treating proper names as having their meanings fixed by rigidified descriptions (Soames 2002) would also apply to Orderist names. Consider the following sentences, spoken about a non-actual subject 'Jim'.

(vii) Jim believes that 1 was the first person born this year.

According to a Soames-style argument, if the referent of '1' is fixed by a rigidified definite description in (vii), then Jim must have beliefs about the actual world. Jim need not have any beliefs about the actual world, therefore '1' cannot have its referent fixed by a rigidified definite description.

21 We might think of systems such as our names for geographic coordinates, times, or dates as arising from similar metasemantic systems. We can competently use infinitely many GPS coordinate-names without an infinitely large lexicon. So long as we understand the convention by which GPS coordinates-names are created, we can use our knowledge of the convention to glean the necessary information from any new example of such a coordinate. These systems presumably generate genuine names because, like in the Orderist case, we might still want to say that time-names and geographic coordinate-names designate rigidly. There are circumstances (like daylight savings time) where we might want the denotations to come apart from the standard conventions: i.e. where '12:01 AM, doesn't come two minutes after 11:59 PM'. Anyone who wasn't aware of the complex exceptions to the standard time naming conventions would be confused. Still, the semantic values of the time-names might still be simple.

names: there are many cases of sloppy programmers coming up with misleading names and having them stick despite the fact that the information they convey is not actually associated with the named object.

College classes are often named using similar productive conventions. Students quickly learn the difference between course numbers in the 100s, the 200s and the 300s. The information encoded by a name such as 'Philosophy 103' doesn't semantically entail that it denotes an 'entry level' class. A cruel and mischievous professor might offer a section of Philosophy 103 that is more advanced and difficult than a graduate seminar. The name's semantic content is given by the class it refers to but the metasemantic convention behind the name allows us to encode non-semantic information that is often communicated when we use the name.

I want to defend the PNT by supplementing it with the claim that quotation-expressions are generated by a similar metasemantic convention—a convention that allows us to create names for linguistic expressions and related symbols. According to what I will call the 'quotation convention,' we can always introduce a name to denote a symbol such that the phonological form of the new quotation-expression is identical to the phonological form of the original symbol and that the orthographic form of the quotation-expression is either identical to the symbol or generated by concatenating quote marks to the beginning and end of the orthographic form of the denoted symbol.

- (QC) For any symbol, we can always add to the lexicon a new expression that
- (a) is a nominal
 - (b) denotes that symbol
 - (c) is pronounced identically to the symbol (if it has a phonological form)
 - (d) is spelled either identically to the symbol, or by concatenating quotation marks before and after the spelling of the symbol (if it has an orthographic

form)^{22 23}

This simple and intuitive supplement allows the PNT to avoid the entire battery of objections.

Some might balk at the idea that quotation formation could be guided by a convention. Conventions are changeable and culture-dependent. The very naming conventions I relied upon to elucidate the notion of a metasemantic convention differ radically from one cultural group to another. This is all true, but it need not impugn the plausibility of a quotation-forming convention. The ability to form and use quotations is extremely useful. Without something like quotation, many important locutions would be far more difficult to communicate. When there is a universal problem, it is hardly surprising if conventions arise everywhere in order to solve that problem. Driving on one side of the road is a classic example of a convention; and while there is minor variation in the convention—in some places people drive on the right and in some places people drive on the left—the space of variation is limited as is required for the convention to play its functional role. At least one convention to that effect is in place virtually everywhere roads exist. Given the utility of quotation it is hardly surprising that quotation conventions would be ubiquitous. Furthermore, there is a degree of variation amongst quotation conventions, at least orthographically speaking. Some groups use single quotes, some double quotes, some use carrots, some italics, and some might not even have explicit markings. In some groups verbal quotations may be marked prosodically by pauses, by air-quotes, or other forms of emphasis. The fact that there is variation in the form of

22 The quotation convention can be seen as a metasemantic form of Cappelen and Lepore's quotation schema—the basis for the Minimal Theory presented in (Cappelen and Lepore 2007). The quotation schema provides us with the clause in a semantic theory that is used to assign meaning to quotation marks. I discuss it in more detail when discussing the Minimal Theory below.

23 I won't say precisely what counts as an acceptable symbol, but I will note that in practice we seem able to make the relevant distinction.

quotation-expressions can allay the worry.^{24 25}

1.4. Response to Objections

Let us turn to see exactly how a metasemantic quotation convention could help with the five objections laid out earlier.

The objection from infinitude: On my view, quotation appears to be a productive system

24 I do not want to hang to much on the word 'convention'. For my purposes it would do if rather than a metasemantic convention, we had an innate psychologically fixed rule that contributed to the formation of the lexicon that was equivalent to the quotation convention noted above. For my purposes here, the ontology of the rule matters less than the fact that some such rule exists.

25 One might also worry that conventions can be in error in a way that quotations cannot. For example, imagine a mischievous Orderist has a child just before midnight on December 31st. This Orderist sneakily adjusted all of the clocks in the pediatric wing of the hospital so that the doctors all believe that the child was born just after midnight. As a result, the child is named '1' even though she is not in actuality the first child born that year. The parents keep their mouths shut, the stratagem is never discovered and the name sticks.

There might not seem to be any analogous cases of quotation: cases where due to error or manipulation we introduce a quotation-expression that actually denotes an expression other than the expression that was intended to be quoted. There are two crucial differences between the Orderist convention and the QC that explain this difference. Firstly, the condition that must be satisfied by the Orderist convention is more opaque than the condition that must be satisfied by the QC. Secondly, Orderist names would have more inertia than quotation-expressions.

Both conventions assign names based on particular properties of the denotation. For the Orderists the condition has to do with birth-order. As the above example shows, it is not always immediately obvious what an individual's place in the birth order might be. Through subterfuge or simple error, we may make consistent mistakes about what is an individual's place in the birth order. With the QC, on the other hand, the properties that determine the orthography and phonology of the quotation-expression are the orthography and phonology of the denotation-expression. It is far harder to be in error when it comes to such properties. Being a competent user of an expression (either in speech or writing) guarantees that you have knowledge of the properties of expressions that drive the quotation convention. That said there may be cases, especially with orthography, where an individual might make a mistake. In those cases the second property becomes relevant.

Conventions that name human beings have a great deal of inertia. If it turns out that someone's name shouldn't have been licensed by the convention, but that it, as a matter of fact was, it takes a lot of social and bureaucratic work to change the name to bring it in line with the convention. Imagine for instance, that years later, the sneaky Orderist parent's subterfuge came to light. Imagine that the Orderists wanted to change the names to make things right. It would take a great deal of work to solve the problem. Every individual born the year after 1 would also have to change their name. It would take a great amount of social, cultural and bureaucratic effort to bring the names in line with the convention, so it is hardly surprising that the names would probably stick, even though people realized that they shouldn't have been given as they were.

With quotation-expressions, however, there is no such inertia. Introducing and eliminating quotation-expressions is cheap. As soon as it is realized that an error was made, there is no difficulty in removing the offending lexical item, and introducing a new one. So since the properties on which the QC is based are transparent to those in a position to use the QC, and because any mistakes can easily be fixed with no serious cost, it is hardly surprising that quotation-expressions that violate the QC aren't in circulation.

That said, there are examples of transient quotation-expressions that are in error. When a reader encounters a word that she has never heard pronounced, she will sometimes assume that it has a phonological form that diverges from its actual phonology. For instance one who has never heard 'Socrates' pronounced might not be aware that the final 'e' is a long vowel. She might accidentally pronounce 'Socrates' in a way that rhymes with 'crates'. Due to her misconception about the phonology of 'Socrates', such a speaker might accidentally introduce a quotation-expression that denotes 'Socrates' but is pronounced with the deviant phonology. While such a

because the quotation convention can be applied to any linguistic expression to generate a novel linguistic expression. Such a convention will be capable of generating an infinite number of atomic quotation-expressions. Note that the same could be said about the Orderist naming convention. If the Orderists could reproduce quickly enough and in large enough numbers, for any natural number n the Orderists could have n children in a given year. As a result any natural number n could be an Orderist name. Since the cardinality of the set of all natural numbers is infinite, the cardinality of the set of all potential Orderist names is infinite as well. The Orderist naming convention could allow us to have an infinite number of atomic names in a language. Just as this productivity is no challenge to a proper name theory of Orderist names, it is no challenge to a proper name theory of quotation.

If the lexicon had to contain every *possible* quotation-expression, then it would be impossible for an agent with finite cognitive capacities to grasp the entire lexicon at any particular time. However, for all practical purposes, an agent who understood the quotation convention and was competent with all of the non-quotation-expressions of a language would be capable of introducing any novel quotation-expression whenever it became relevant. Such an agent would be able to competently use any quotation-expression that arose by modifying her lexicon, though she would not be capable of encoding all potential quotation-expressions at once. If the quotation-expression is rare and it is doubtful that it will arise again any time soon, she can let it fall from her lexicon as well. So long as we see lexicons as changeable, as they surely are, the quotation convention can explain (F1).²⁶

quotation-expression will likely suffer social sanction, and fail to take hold permanently, there is no reason to think that speakers fail to refer to 'Socrates' using their deviant quotation-expression. Similarly, we could imagine a mischievous teacher misleading her students about the phonology of 'Socrates' and thereby purposefully inducing them to coin deviant quotation-expressions.

26 The lexicon is often treated as static for the sake of doing linguistic theory. Still, a static lexicon is recognized to be an idealization, useful for some purposes. Given that it is clear that actual lexicons do change, there is no harm in dropping that idealization when necessary. Note that allowing changes to the lexicon in no way undermines the computational properties of grammars based on such a lexicon. At any particular moment, the lexicon will be fixed, and the grammar will function based on that fixed lexicon.

Peter Ludlow has recently argued that we should accept a dynamic lexicon: a lexicon that is constantly

The objection from novel uses: As I have argued, names generated through a metasemantic convention can convey information in virtue of knowledge about how the name was coined. This information can serve to allay the second challenge: the objection from novel uses. That challenge queried how we could come to understand novel quotations if they were proper names. My reply is that knowledge of the convention whereby the quotation-expression was created suffices to convey the information required for understanding what the quotation-expression denotes. The quotation-forming convention tells us that for any expression we can create a name denoting that expression that takes a certain form. Knowing this convention, when we see a name of that form we can infer what it was intended to denote.²⁷ Recognizing that this information is conveyed suffices to explain (F2).

The objection from disquotation: The Quotation Convention can also explain (F3)—the plausibility of the disquotational schema. The quotation convention tells us that for any expression Φ we can form a new expression by embedding Φ in quotation marks and that this new expression denotes Φ . From the quotation convention, together with plausible general principles about the predicate 'is true' and the nature of sentences, we can easily derive each instance of the DS.

(Principle 1): Every constituent of a sentence is an expression.

(Principle 2): If ($\lceil \Psi \rceil$ is an expression and $\lceil \Phi \rceil$ is a sentence) and ($\lceil \Psi \rceil$ denotes $\lceil \Phi \rceil$) then (Ψ is true iff Φ)

(Principle 3): If $\lceil \Phi \rceil$ is an expression, by the QC we can introduce an expression $\lceil \lceil \Phi \rceil \rceil$ that denotes $\lceil \Phi \rceil$.

(Principle 4): There is no other way to introduce quotation-expressions.

adjusting and shifting to fit conversational needs. (Ludlow 2006 and 2007) My account of quotation-expressions would obviously fit neatly with such a view, but it doesn't require the constant changing of most lexical items. My account only requires the ability to easily introduce and remove quotation-expressions.

27 There are exceptions. In cases where two different expressions share the same phonology and/or orthography: say the two English expressions 'bank' and 'bank', the quotation-expression “ 'bank' ” itself fails to provide the information required to distinguish which expression was used to construct the quote-expression.

- (1) $\lceil \Phi \rceil$ is a sentence (Assumption)
- (2) If $\lceil \lceil \Phi \rceil \text{ is true iff } \Phi \rceil$ is a sentence then $\lceil \lceil \Phi \rceil \rceil$ is an expression. (by Principle 1)
- (3) If $\lceil \lceil \Phi \rceil \rceil$ is an expression, then $\lceil \lceil \Phi \rceil \rceil$ denotes $\lceil \Phi \rceil$. (by Principles 3 and 4)
- (4) If $\lceil \lceil \Phi \rceil \rceil$ denotes $\lceil \Phi \rceil$ then $\lceil \lceil \Phi \rceil \rceil$ is true iff Φ (by Principle 2 and (1))
- (5) If $\lceil \lceil \Phi \rceil \rceil$ is true iff $\lceil \Phi \rceil$ is a sentence then $\lceil \Phi \rceil$ is true iff Φ . (Chaining (2), (3) and (4))

Since ' Φ ' is a schematic letter, this argument applies to any sentence that we can substitute for ' Φ ' (making the assumption, (1), true).²⁸ We can thereby derive something that amounts to the disquotational schema from Principles (1 – 4). There is an obvious wrinkle: one might worry that (5) is weaker than the disquotational schema. (5) makes disquotation conditional on the requirement that $\lceil \lceil \Phi \rceil \text{ is true iff } \Phi \rceil$ is a sentence. Given that on my view quotation-expressions are added to the lexicon as they are needed, there will be expressions whose quotations have never been considered. For such expressions, if the quotation-expression is not introduced into the language, we will not have a true instance of the disquotational schema—not because the putative instance will be false, but because the putative instance will fail to be a sentence of the language. That said, given the ease of introducing quotation-expressions, this theoretical possibility doesn't seem to be much of a worry. Any time we need to consider an instance of the disquotational schema, we can easily introduce the needed quotation-expressions.²⁹ On my metasemantic account of the formation of quotation-

28 I'm bracketing issues that might arise out of the Liar Paradox. The Liar clearly shows that the principles I rely on would need to be restricted in some way. However the Liar doesn't seem to depend in any way on issues with quotation, so I don't see that the Liar poses any specific problems for my proposal.

29 Further difficulties might arise for those who want to use the DS itself as a way of defining the truth predicate. A defender of such an account might accuse me of begging the question: after all I invoke the functioning of the truth predicate in my derivation of the DS. Putting that issue aside, however, the more serious worry would be that defining the truth predicate in terms of the DS would be problematic if we do not already have all of the quotation-expressions in our language. I have two responses to this worry. The first is that we might try and move to a more generous notion of what it is for an expression to be in a language. Rather than saying that an expression must be contained in the lexicon, we might say that the expression has to be contained in the closure of the lexicon under

expressions we have a clear explanation for why the disquotational schema holds.

The objection from the special relationship: The objection from the special relationship holds that the connection between the quotation-expression and the denotation-expression is not arbitrary. Most words bear an arbitrary connection to their denotations. We could have used the word 'cat' to denote dogs or the word 'smell' to denote televisions. It is thought to be a mere accident of history that one particular phonological and orthographic structure gets connected to a particular denotation. But the connection between quotation expressions and their denotations is not arbitrary in the same way. “ 'cat' ” seems to bear a special relation to 'cat', the former seems to contain the latter. But this is far from surprising if quotation-expressions are formed via a particular convention like the QC. The special relationship between the quotation-expression and the denotation-expression exists because of the metasemantic convention rather than any semantic relationship between the quotation- and denotation-expressions. Just as there is a systematic, non-arbitrary connection between Orderist births and Orderist names, there is a systematic, non-arbitrary connection between quotation-expressions and their denotations. However, the strongest form of the argument from the special relationship didn't just say that the connection between quotation-expressions and denotations was non-arbitrary. Instead, it held that there was a necessary connection between second-order quotations and the first-order quotations they denote.

This necessary connection is a *prima facie* difference between the QC and the other metasemantic conventions I have discussed. Though Orderist names designate rigidly, we can

particular metasemantic operations. Such an approach would need spelling out, but there is no reason to think it impossible. Second, my account is not alone in having trouble with such a position. The versions of the Use Theory defended by Washington and Saka, for instance, would be problematic as they would deny that quotation-expressions are parts of sentences, and instead claim that quotation-expressions are parts of utterances. So instances of the DS would have to be utterances to be true. On Davidson's Demonstrative Theory of quotation, similarly, we cannot make ready sense of possible instances of the DS involving expressions never actually considered, since the material within the quotation marks is treated as being outside of the sentence, and potentially outside the language. Instances of the disquotational schema would fail to be true independent of the completion of the demonstrative with the non-sentential material. The real lesson here is that the details of some deflationary accounts of truth rely heavily upon technicalities concerning the workings of quotation.

imagine two possible worlds with Orderists where each group uses the same naming convention, but where the Orderist language in the first world has an expression '1' that denotes 1, while the language spoken in the second world has an Orderist expression '1' that denotes 2. If the QC is a metasemantic convention, why is it that the connection between 'fruit-bat' and “'fruit-bat'” seems to exist in every language that contains both expressions (and quotation?) How can the QC explain (F4), the special relationship?

The metasemantic conventions I have canvassed so far restrict the assignment of a putative name to an entity that satisfies a condition. The Orderists will only assign the name '1' to individuals who satisfy a given condition: the first born in a given year. The conditions associated with most metasemantic naming conventions do not involve essential properties of the thing being named. Being born first in a year is presumably not an essential property of any individual. So in worlds with different birth-orders a single Orderist convention will give rise to different languages—different assignments of denotations to similar linguistic forms. With other naming conventions, however, the condition whose satisfaction is required for a successful use of a convention might describe a necessary property of the entity. Take the Jewish patronymic/matronymic naming convention, as an example. If we assume essentiality of origins, the property of being the son or daughter of a given person is an essential property of the child. Therefore, a person named 'Tsvi ben Reuben' (Tsvi son of Reuben) will have the property of being a son of Reuben in every world where he exists.³⁰ In any world where the son is named under the Jewish naming convention (and where his father is named 'Reuben') the same linguistic form will be used for his name.

How might this help with quotation? We might reasonably assume that facts about the phonological and orthographic structure of a word are essential properties of linguistic expressions. It

³⁰ Assuming, of course, that the convention is applied correctly. See ft 23.

is not possible for 'fish' to have been spelled and pronounced as 'platypus' is spelled and pronounced. Any expression spelled and pronounced identically to 'platypus' would be a distinct expression from 'fish,' even if it shared a meaning with 'fish.' The quotation convention tells us how to build a new quotation-expression on the basis of the phonological and orthographic properties of the old expressions. The phonological and orthographic properties invoked in the construction of the new expression are presumably necessary properties of the original expression. So it can follow that in any world where the QC is operative use of the QC will construct quotation-expressions that mirror the orthographic and phonological properties of the original expression. The QC can serve perfectly well to explain why there is a special connection between quotation-expressions and their denotations, and why in any world where there is a language including an expression “ 'fruit-bat' ” formed by the quotation convention, that expression will denote an expression 'fruit-bat'.

The objection from hybrid quotation: The final objection is trickier. I recognize that the PNT even with the QC cannot explain hybrid quotation, but I don't take this admission to undermine the plausibility of the PNT. It seems like no purely semantic theory will be able to explain hybrid quotation. In hybrid quotations an expression seems to be used in two distinct ways at once. However, only one of the uses seems to have the potential for a semantic explanation. Recall the examples above:

(14a) John never wants to 'jump from a plane like a crazy person' again.

The two pieces of information being communicated by (14a) can be glossed³¹ as:

(14d) John never wants to go skydiving again.

(14e) John used the expression 'jump from a plane like a crazy person' to describe skydiving.

31 I'm not worried about providing accurate glosses here, instead my goal is just to illustrate a more general point.

On a view where the occurrence of 'jump from a plane like a crazy person' in (14a) denotes going skydiving, whether due to a metasemantic, semantic, or even pragmatic process, it is clear how (14d) could be compositionally generated from the resulting sentence. It is harder, however, to see how (14e) could be compositionally generated. The predicate 'used the expression' isn't obviously part of the sentence being uttered.

Even accepting that hybrid quotation will require a pragmatic explanation, that doesn't speak against a purely semantic account of non-hybrid quotation. Hybrid and non-hybrid quotation differ in fundamental ways that make it likely they will require different treatments. One of the key features of non-hybrid quotation, that I mention above, is that non-hybrid quotation-expressions are nominals regardless of the symbol being quoted. This is a striking fact that demands explanation. Hybrid quotation involves no similar syntactic strangeness and for that reason alone we might seek different treatments of the two phenomena. As I argue below, there are reasons to be suspicious of pragmatic accounts of non-hybrid quotation. If a pragmatic account of hybrid quotation is needed, and a pragmatic account of non-hybrid quotation is implausible, we shouldn't seek a single treatment of both phenomenon, and the fact that the PNT can't explain hybrid quotation by itself shouldn't be a mark against it.

Furthermore, a pragmatic account of hybrid quotation can benefit from the existence of a semantic treatment of non-hybrid quotation. The pragmatic explanation of hybrid quotation can make use of the fact that semantically a quotation-expression denotes a denotation-expression as part of an explanation for why hybrid quotations seem to give rise to multiple propositions. Hybrid quotation is interesting and complex, but it doesn't pose any direct challenge to the PNT as an account of non-hybrid quotation.

Metasemantic Conventions are Too Broad A Strategy: One final worry about my view is that

the explanatory power of positing metasemantic conventions may appear to be too strong. It is clear that there are some metasemantic conventions, e.g. the naming conventions I describe above. Still, how do we know that we are positing an adequately constrained explanation, rather than simply invoking a vague catch-all explanation? While I want to leave open the possibility that other phenomena could receive metasemantic explanations,³² there are unique features of quotation—the same features that distinguish direct quotations from other opaque contexts—that make it particularly amenable to metasemantic explanation. Quotation-expressions appear to be syntactically simple nominals and the apparent constituents of quotation-expressions—the quoted material—are not necessarily well-formed linguistic expressions. As a result, we need an account of quotation that can form syntactically simple linguistic expressions from material that may not constitute a well-formed linguistic expression—something more easily done in an operation that modifies the lexicon rather than an operation that takes its inputs from a preexisting lexicon. As quotation formation functions independently of the semantic and syntactic properties of the quoted material, there is reason to believe that it occurs prior to any linguistic operations on the quoted material. Hence, quotation is particularly amenable to a metasemantic treatment.

1.5. Comparing the PNT to Alternatives

Up to this point I have argued for the PNT by claiming that none of the standard objections hold once the PNT has been supplemented with a metasemantic account of quotation formation. In

32 I think that there is some potential for a metasemantic explanation of metonymy, for example, though in the end I prefer an explanation of metonymy that posits optional semantic rules. (See Ch. 2 – Metonymy and Semantic Theory). As mentioned above, Peter Ludlow has written a series of papers arguing in favour of explaining context sensitivity in terms of a radically shifting lexicon. (Ludlow 2006, 2007) It seems that on such an account there would be a great deal of work for metasemantic rules to do. Metasemantic conventions are also interesting in their own right for their ability to convey information in ways not normally recognized in linguistics and philosophy of language. They can be a vehicle for transmitting information that is not semantic, but that also does not require the kind of inferential pattern that underwrites Gricean implicature. Metasemantic conventions can explain the communication of non-semantic information in the absence of specific intentions on behalf of the speaker to suggest that information. As a result, metasemantic conventions could help us understand ways in which information is communicated in the absence of a derivation of Gricean implicatures.

this section, I go beyond merely defending the PNT against these objections—I argue that the PNT is the only available approach that captures two crucial facts about quotation: (I) the special syntactic properties of quotation, and (II) the possibility of markless quotation-expressions. In the current literature there are three dominant approaches to quotation: the Use Theory,³³ the Demonstrative Theory³⁴ and the Minimal Theory³⁵.

I will briefly characterize the three views.

The Use Theory: According to the Use Theory, quotation is a way that we can use normal expressions. Any sentence can be used in multiple ways. Take a simple declarative sentence such as (18).

(18) Fluffy is a cat.

(18) can be used in many different situations to communicate very different things. It may be used to communicate the fact that Fluffy is a cat. If (18) is uttered with a particular intonation, where the pitch of the expression rises as the sentences comes to a close, (18) might be used to ask a question. In a context where a director is casting parts for a play (18) might be used to assign a role, the role of a cat, to Fluffy. It is relatively uncontroversial that we can perform these different speech acts with a single sentence—that a single sentence can be used in a number of different ways.

Some theorists, such as Washington and Saka, go beyond saying that sentences have different uses, claiming that subsentential expressions can also be used to denote non-standard denotations.

Such a theorist might argue that phenomena such as metonymy, metaphor and irony involve using

33 The Use Theory is defended in (Washington 1992) and (Saka 1998, 2011.) Recanati is often labeled as a Use theorist as well, (i.e. by Cappelen and Lepore) but I believe his position is harder to classify. While Recanati argues that hybrid quotation is caused by pragmatic processes, he also recognizes that quotation-expressions have a demonstrative-like semantics that applies in many contexts. Part of the problem is trying to classify entire 'theories of quotation'. This can confuse semantic aspects of quotation (such as the semantics described by the PNT), with metasemantic aspects of quotation (captured by the QC) and pragmatic aspects of quotation that are likely necessary for explaining hybrid quotation.

34 The major statement of the Demonstrative Theory is in (Davidson 1979), though versions were defended earlier by Barbara Partee (Partee 1973), and later by many theorists.

35 The Minimal Theory is articulated and defended in (Cappelen and Lepore 2007)

subsentential expressions with denotations that differ from the expression's standard denotation.³⁶ On such a view of metaphor, for example, in an utterance of “Juliet is the sun”, ‘the sun’ is not used with its standard denotation, but is instead used to denote a person who has sun-like properties. Similarly, quotation is supposed to occur when a language producer uses an expression to denote the expression itself, rather than the expression's standard denotation.

Different ways of elucidating the meaning of ‘used to denote’ give rise to different versions of the Use Theory. Saka claims that all expressions are ambiguous—they are associated both with their normal denotations and their quotation denotations. A quotational use, for Saka, is just a particular disambiguation of the expression.³⁷ Quotation marks, on his view, are simply a device for aiding in disambiguation. Another version of the Use Theory holds that expressions have a single denotation, but that there exist pragmatic rules that somehow shift the expression's denotation from its canonical denotation to the expression itself.³⁸ While a full discussion of the Use Theory would require clearly articulating the different versions of the theory, my goal here is to argue against any version of the Use Theory. The issues I raise below should apply regardless of how we end up understanding ‘use’.

The Demonstrative Theory: Much of the contemporary work on quotation was motivated by Davidson's seminal “Quotation” (Davidson 1979), in which he rejected the PNT in favour of a Demonstrative Theory. Cappelen and Lepore began as defenders of the Demonstrative Theory, and

36 I argue against this approach to metonymy in Chapter 2 claiming we shouldn't treat metonymy as a distinct use of expressions, but instead see it as arising out of semantic theory.

37 “I shall suggest that every expression token ... ambiguously or indeterminately refers to itself and to various items associated with it. Quote marks ... help to disambiguate the intended reference, although they are usually neither necessary nor sufficient for doing so.” (Saka 1998 113)

38 Pragmatic meaning transfer functions are posited by Nunberg in (Nunberg 1978, 1979) for cases of metonymy. (Sag 1981) shows how pragmatic shifting functions can be included in a formal theory. It isn't obvious that such functions can be applied in the case of quotation. In cases of metonymy, the functions can be understood as functions from denotations to denotations. But this means that a given pragmatic function will always have the same output when applied to different denotations regardless of the expression that has the original denotation. In other words, the pragmatic function will generate the same output when composed with different expressions that have the same denotation. Quotation clearly does not work like this; two distinct co-referential expressions will be denoted to by distinct quotation-expressions. Still, I suspect that something like the pragmatic function view is sometimes supposed by Use theorists.

only developed their Minimal Theory later, in response to perceived flaws in the Demonstrative Theory.

According to the Demonstrative Theory, we are to understand quotation marks as a kind of demonstrative. The material within the quotation marks, on this account, is not part of the sentence itself. The quotation marks *demonstrate* the material within them, just as an act of pointing might demonstrate an object. According to Davidson, we can paraphrase (19a) as (19b)

(19a) 'Kittens' is a word.

(19b) Kittens. That is a word.

The Demonstrative Theory embodies an important insight in that it provides a succinct explanation for the special syntactic properties of quotations. Recall that one initial reason for taking quotations to be semantically and syntactically simple was that the putative constituents of a quotation-expression need not themselves be linguistic entities. By claiming that the quoted material is not actually a constituent of the sentence, but rather something external being demonstrated, the Demonstrative theorist can explain why the quoted material needn't be a well-formed linguistic expression.

The Minimal Theory: While Cappelen and Lepore began by defending the Demonstrative Theory, they eventually found themselves seriously worried that some of the standard objections to the PNT apply equally to the Demonstrative Theory. In particular, the Demonstrative Theory itself doesn't seem to explain the special relationship between quotation-expressions and their denotations. Demonstratives do not have any special relationship to their denotations, aside from the fact that the denotation is demonstrated. There are also problem cases where there are other potential candidates to be the demonstratum, say a particularly salient sentence written largely in neon colours on another piece of paper. If the quotation marks are just demonstratives, other competing potential

demonstrata should sometimes win out and become the content demonstrated by the quotation marks.

Cappelen and Lepore sought to develop an account of quotation that can explain what is special about quotation. In the end, however, they believe that what is special about quotation can actually be summed up in a relatively simple schema: the Quotation Schema.

$$(QS) \llbracket \llbracket \Phi \rrbracket \rrbracket \text{ quotes } \llbracket \Phi \rrbracket^{39}$$

Here ' Φ ' is understood as a schematic letter that can be replaced by any *quotable expression*—a category made up of well formed linguistic expressions as well as non-linguistic symbols that can be quoted. (QS) is to be understood as a semantic rule that provides meaning to quotation marks. In order to parse sentences including “ 'Fluffy' ”, we need a semantic theory with a clause such as:

$$(20) \text{ 'Fluffy' denotes Fluffy.}$$

This clause is what allows us to use 'Fluffy' meaningfully. Just as (20) is the rule that governs the meaning of 'Fluffy', for the Minimal theorist, (QS) is a rule that governs the meaning of quotation marks. Furthermore, (QS) is, according to the Minimal Theory, all there is to providing a full account of quotation, one that explains all the requisite facts.

Two Points of Disagreement: Putting aside the issue of hybrid quotation, there are two crucial points of disagreement between these three theories. The first pertains to the role played by the special syntactic properties of quotation-expressions while the second pertains to the role played by quotation marks.

As I have emphasized, no matter what syntactic category the quoted material belongs to, non-hybrid quotation-expressions are syntactically nominals. A theory of quotation must explain

39 Cappelen and Lepore formulate (QS) as follow:

(QS) ' 'e' ' quotes 'e' (Cappelen and Lepore 2007)

I've reformulated (QS) to be consistent with the notation I use throughout the rest of the paper.

why a quotation-expression seemingly formed from a verb phrase or adjectival phrase (let alone a string of nonsense words) is a nominal. Furthermore, any plausible theory of quotation must show how we can construct quotations out of non-linguistic entities. The Demonstrative and Minimal theories gain plausibility by explaining these facts. According to the Demonstrative Theory, the quoted material isn't part of the sentence. The quoted material is outside of the sentence and is demonstrated by the quotation marks. Compare standard demonstratives. Imagine that while pointing to a jack-o-lantern one utters:

(21) That is scary.

The jack-o-lantern itself isn't part of the sentence (21). Instead it is something outside the sentence being denoted by a constituent of the sentence, the demonstrative 'that'. For the Demonstrative Theory, the quoted material is analogous to the jack-o-lantern and the quotation marks are analogous to 'that'. According to the Minimal Theory, the QS provides a semantic rule for interpreting quotation marks that can allow us to use quotation marks to construct nominals out of other types of symbols.

The Use Theory struggles with explaining these syntactic properties of quotations. It isn't clear how Saka's ambiguity claim, for instance, could hold for expressions that are not well-formed linguistic expressions and hence are not in the lexicon. Since such symbols are not in the lexicon in the first place, surely they cannot be lexically ambiguous. The 'pragmatic rule' approach has a related problem. Standard syntactic theories articulate rules that mathematically generate phrase structures from admissible combinations of lexical items. Since, as I argued above, standard syntactic theories cannot easily accommodate rules that act on putative non-linguistic constituents, standard syntactic theories cannot generate the input to the pragmatic rules, as the input includes a constituent that isn't a lexical item. Even if syntactic theories could generate the input, however, it would be a

radical move to claim that the syntactic categories of expressions are determined by pragmatic rules. Such a claim goes against the substance and methodology of our best syntactic theories which take fundamental syntactic properties, such as the syntactic category of a lexical item, to be independent of pragmatic concerns.

The Use Theory struggles with explaining the syntactic properties of quotation-expressions that can be easily explained by the Demonstrative and Minimal theories. It is important to note, however, that just as the Demonstrative Theory provides a semantic analysis of *quotation marks*, (QS) is, for the Minimal theorist, a rule that primarily assigns meaning to *quotation marks*. As such, both require that every occurrence of quotation involves an explicit or implicit syntactic constituent that can play the role of quotation marks. One key motivation for the Use Theory is a denial that any such marks need to be present in cases of quotation. The use of quotation marks, the Use theorists say, is often a mere orthographic convention, like the use of capital letters. At best quotation marks help us disambiguate, but they are not required for quotation. Outside of written language, it is argued by Saka and Washington, most quotations do not require any explicit marking—most quotations are markless. When we utter sentences like (19a), we do not mark the quotation phonologically.

(19a) 'Kittens' is a word.

The Use theorists have taken this argument even further, claiming that many cases of written language omit quotation marks, especially those quotation-expressions that are used for metalinguistic talk such as:

(22a) 'Hello' begins with an 'h'.

While writing teachers work hard to drill proper use of quotation marks into their students, much informal writing proceeds without using explicit quotation marks. Even very bright students with a

strong background in philosophy can struggle to get the use-mention distinction right, and to use quotation marks where (and only where) they are appropriate. It is entirely unsurprising to see:

(22b) Hello begins with an h.

There is reason, then, to think that quotation marks are a notational aid but fail to correspond to an element in syntactic structure. At the very least, the Demonstrative or Minimal theorists owe us some evidence that there is an always implicit quotation-mark-like device in syntax, even in cases of apparent markless quotation.

Cappelen and Lepore provide two responses to this line of argumentation. First they argue that even if cases of markless quotation exist, markless quotations don't challenge the Minimal Theory. Even if sentences like (22b) are true, Cappelen and Lepore ask, “does it follow that a semantics for quotation that applies only to sentences containing quotation marks (or their equivalents) is somehow incomplete?” (Cappelen and Lepore 2007 37) They answer in the negative, holding that a semantics for quotation is not meant to explain every way we use language to talk about language. Surely we can say:

(23) That expression is a word.

Yet no theory of quotation needs to explain such cases. Sentences like (22b) would simply present a further kind of metalinguistic discourse.

I find this first response deeply unsatisfying. As there are virtually never marks in oral quotation, the Minimal Theory would only provide a semantics for written language, and a distinct semantics would be needed for spoken language. However, aside from the fact that written quotations are written, and oral quotations are spoken, they seem extremely similar. They both occur in the same kinds of constructions and they have similar semantic properties. When we write down oral language we add quotation marks, and when we read written language we do not have to orally

express the written quotation marks. Written and oral quotations seem to be in complementary distribution. These properties strongly suggest that oral and written quotations are expressions of the same phenomenon in different modalities. In linguistics two phenomena in complementary distribution are often assumed to be different manifestations of an underlying principle, and the same should hold for quotation. These facts strongly suggest that oral and written quotations are of a kind and should be provided a unified treatment.⁴⁰ Since, as I claim, the PNT provides a unified treatment of marked and markless quotation, we would have strong reason to adopt the PNT over an account that could only explain written quotations.

Cappelen and Lepore's second response holds that sentences like (22b) cannot be true. They claim that there *must* be elided quotation marks, because otherwise the resulting sentences would be ungrammatical. While I think that Cappelen and Lepore are correct that there is evidence that quotation-expressions have syntactic properties that are distinct from the quoted material, that observation does not, by itself, provide evidence for the existence of an implicit syntactic operator. There is another alternative that can explain the special syntactic properties of quotation-expressions without positing massive numbers of elided quotation marks: the PNT. Given my metasemantic story, we can explain how new expressions that are phonological identical to verbs, adjectives or instances of other parts of speech can be syntactically nominals. Once we see the PNT is a live option, we lose the need to posit elided quotation marks. Cappelen and Lepore are making a substantive claim about syntax. The burden is on them to marshal syntactic evidence that the

⁴⁰ Compare the relation between irony and negation. One might present the following parody of my objection to Cappelen and Lepore: we have at least two ways of expressing negation: the lexical item 'not' and using irony. However one cannot object to a semantics for 'not' that it doesn't accommodate irony! Though both 'not' and irony might express negation, there is no reason to think that an account of 'not' should immediately explain irony.

The relationship between written and oral quotation is, however, radically different from the relation between 'not' and irony. When reading sentences that include 'not' we never remove the 'not' while using an ironic tone of voice. Similarly when writing down an ironic utterance, we do not insert 'not' to make up for the lack of irony indicators. 'Not' occurs regularly in oral speech, and irony can be communicated in written texts. Irony and 'not' are not in complementary distribution in the way that marked and markless quotation seem to be.

putative phonologically null syntactic operators actually exist.

If we were restricted to the currently popular approaches to quotation, we would be in a bind. The Use Theory can explain markless quotation, but struggles with the syntactic properties of quotation-expressions. The Demonstrative and Minimal theories have effective explanations for the syntactic properties of quotation-expressions, but cannot accommodate markless quotation. The solution to this bind, I believe, is to adopt the PNT along with my metasemantic supplement. This package can explain the syntactic properties of quotation-expressions: according to the PNT/QC package quotation-expressions are syntactically simple nominals. The package can also explain markless quotation: since quotation formation happens in the lexicon, there is no need to include any syntactic quotation operator in the sentence itself. The PNT is, as far as I know, the only extant theory that allows us to simultaneously capture both of these insights.

There is a broader lesson here as well. My metasemantic account of quotation formation, the Minimal Theory and the pragmatic rule version of the Use Theory all involve positing rules with similar content. They all say that there is a linguistic rule that allows us to go from symbols to quotation-expressions that denote that symbol. The primary difference between the three accounts is where they locate the rule. I claim that the rule is metasemantic—it affects what goes into the lexicon, Cappelen and Lepore take the rule to provide a semantic interpretation for quotation marks, and the Use theorist takes the rule to be a part of pragmatics. Though debates over semantics and pragmatics are sometimes derided as being merely terminological, we have here an example where substantive matters—whether there is markless quotation and how to explain the syntactic properties of quotation-expressions—depend crucially on where we locate the rule for forming quotation. Determining whether quotation formation is a metasemantic, semantic or pragmatic process is key in providing a substantively correct explanation of the phenomenon.

In the end, the PNT is innocent of all the charges leveled at it. The damning objections are all answerable if we supplement the PNT with a metasemantic account of quotation-formation. Furthermore, only the PNT is capable of explaining both the syntactic properties of quotations and the possibility of markless quotation. The PNT needs to regain its rightful place as the leading approach to quotation.

Chapter 2 - Metonymy and Semantic Theory

A semantic theory for a language *L* describes a system of formal rules that associates the syntactic structures of *L* with meanings relative to contexts. One common though rarely articulated assumption among linguists and philosophers is that semantic rule systems do not allow *optionality*. I will explain optionality in more detail below, but roughly, a semantic rule system allows substantive optionality if it contains rules whose applications are neither mandatory nor disallowed. If we understand the *association* of syntactic structures with meanings (relative to formal contexts) as a set of rules for *deriving* meanings from syntactic structures (relative to formal contexts), without substantive optionality there can only be one meaning derived from each syntactic structure. In semantic rule systems that allow optionality there can be multiple meanings derived from a particular syntactic structure relative to a single formal context. My primary goal in this paper is to make use of optionality to describe a way of incorporating metonymy into a semantic rule system. Metonymy occurs when an expression's denotation seems to shift from its lexically assigned denotation to some other entity that bears a salient relation to the lexically assigned denotation. For example:

(1a) The ham sandwich at table five is getting antsy.

(1b) JFK is beside Marilyn Monroe at Madame Tussaud's.

(1c) I've been reading lots of Kaplan lately.

In (1a) 'the ham-sandwich' can be used to denote a restaurant patron. In (1b) 'JFK' and 'Marilyn Monroe' can be used to denote wax models, and in (1c) 'Kaplan' can be used to denote Kaplan's philosophical writings. Many theorists hold that semantic rule systems don't have the resources to derive shifted meanings for sentences like (1a-c). I argue that not only do semantic rule systems have all the necessary resources for incorporating metonymy, but that incorporating

metonymy into a semantic rule system provides us with the best available account of metonymy.

In 2.1.1. I provide a more detailed account of semantic rule systems. In 2.1.2. I describe what it is for a semantic rule system to allow optionality. In 2.1.3. I respond to one major objection to semantic rule systems that allow optionality. That objection holds that substantive optionality undermines semantic theory's explanation for how speakers form intuitions about the truth-conditions of utterances. In 2.1.4. I explicitly distinguish substantive optionality from context-sensitivity. In 2.1.5. I discuss the way in which optionality in syntactic rule systems has been invoked in debates over context-sensitivity. In the second part of the paper I provide a case study of how accepting optionality in semantic rules systems can help us in constructing semantic theories. In 2.2.1. I say more about metonymy. In 2.2.2. I present a semantic theory for a hypothetical language, Metonenglish, as a precursor towards developing my own account of metonymy in English. In 2.2.3. I describe my account of metonymy and respond to several objections. In the third part of the paper I go beyond treating my account of metonymy as a mere example of the utility of optionality and argue that my semantic approach to metonymy is the best on the market. In 2.3.1. and 2.3.2. I highlight facts about metonymy that have not been adequately appreciated, but that are easily explicable on my account. In 2.3.3.-2.3.6. I argue that my account of metonymy is better than any of the plausible alternatives. I aim to show that embracing optionality is theoretically sound and can lead to a superior approach to metonymy.

2.1. Semantic Theory and Optionality

2.1.1. What is Semantic Theory?

At its most general, semantic theory is the study of how bits of language, in particular certain syntactic structures, are associated with meanings. This obviously rough characterization can be precisified by explicating its three main constituents: What are the bits of language? What are

meanings? And how are they associated?

I have relatively little to say about the first two questions. According to standard practice the bits of language with which semantics is concerned are so-called 'logical forms'. I will follow the standard Chomskyan approach to syntax. On this approach, language users have a cognitive system, called 'syntactic competence', that is constituted by knowledge of a system of rules of syntax.¹ For each phrase in a language this system of syntactic rules mathematically generates a structure called a 'logical form' that provides a structural description of that phrase.² For each logical form, we can construct a derivation using the syntactic rules that results in that logical form. A logical form for a phrase *P* describes each syntactic constituent of *P* as well as describing the semantically relevant structural relations between the constituents of *P*. I will follow standard practice and take logical forms to be the bits of language with which semantic theories associate meanings.³

As for the second question, I will be assuming that the meanings semantic theories associate with the logical forms of sentences are truth-conditions: ways the world must be in order to make the sentence true. There are many plausible candidates for the job I am assigning to truth-

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- 1 Chomskyan syntax has moved away from saying that having a syntactic competence is constituted by knowledge of rules. According to the Principles and Parameters approach and the Minimalist Program, having a syntactic competence is actually constituted by knowledge of a set of general principles which include parameters that can be set in different ways by different languages. Syntactic rules are derived from the general principles together with a lexicon. For expository purposes, it is easier to present material in terms of a system of rules, rather than a system of principles with set parameters from which rules can be derived. I'll therefore present material in the former way, though nothing substantive should hang on this.
 - 2 On the Chomskyan account, syntactic competence is a store of knowledge that associates two different representations of a linguistic expression: a phonological form which captures all of the phonologically relevant properties of the expression and a logical form which captures all of the structural properties relevant to semantic interpretation. Some accounts of syntax posit intermediate levels of description: such as deep structures or surface structure. These additional levels are relevant to the generative rule system used to generate the pairings of phonological forms and logical forms. In assuming that syntax generates logical forms, I am thereby going along with the standard division of labour in contemporary syntax.
 - 3 'Logical Form' is a vexed term used in a number of different ways. Some authors use 'LF' rather than 'logical form' as a way of avoiding these difficulties. Suffice it to say, I'm going along with one strand of the literature in which a logical form is a representation of a sentence that describes all of the phrase's constituents and semantically relevant structural properties. Logical forms, in this sense, do not necessarily make explicit all of the *logical* structure of a sentence, nor do they make explicit all of the information required for understanding what valid inferences we can make using that sentence.

conditions. Other plausible candidates include structured propositions, truth values (assigned relative to a context), dynamic update conditions and sets of possible worlds. I am officially neutral about which of these is the best candidate for being associated with the logical forms of sentences and my discussion could easily be adjusted to accommodate different candidates. For the sake of simplicity and concreteness, however, I will write as if the relevant meanings are truth-conditions. When describing semantic theories formally, I will represent truth-conditions as functions from worlds to truth values, such that the function returns true if the truth-condition is satisfied at that world. I will also use 'semantic value' as a neutral term for whatever a semantic rule system associates with a logical form of a sentence, a logical form of a non-sentential phrase⁴ or an atomic constituent of a logical form.

The everyday notion of *meaning* goes far beyond the associations made by semantic theories. We *use* language in many ways: we suggest, we imply, we hint, we are sarcastic and so on... Given the different ways that language is used, it is important to distinguish between the semantic rule system for a language—the rules that associate the logical forms of sentences of the language with truth-conditions—and the ways in which people can use the language. Semantics is the study of the former, while pragmatics is the study of the latter. Gricean implicature, for example, is a major topic of research in pragmatics. The mechanisms that give rise to Gricean implicatures are one method whereby speakers can communicate meanings that may go far beyond the truth-conditions semantically associated with the sentences they utter. Pragmatic inquiry does not have a homogenous domain—under the rubric of 'pragmatics' one can study any aspect of linguistic meaning that is not explained by the semantic rule system.⁵

4 I won't be discussing the semantic values associated with the logical forms of non-sentential phrases in any detail. In general, when I speak of a logical form I will be speaking of logical forms that describe the structure of sentences.

5 There is debate over whether any semantic rule system *can* associate logical forms with truth-conditions relative to a context. Theorists such as Kent Bach (Bach 1994) and Francois Recanati (Recanati 2004, 2010) argue that semantic rules systems associate logical forms with semantic values that fall short of being truth-conditions. These theorists

The main questions I will be asking about semantic rule systems concern the rules that associate logical forms with truth-conditions. The rules that are used to associate logical forms with truth-conditions can be divided into two classes: lexical rules and compositional rules. Lexical rules assign semantic values to atomic constituents of logical forms.⁶ The totality of lexical rules for a language is the semantic component of the lexicon for that language.⁷ A lexicon can be conceptualized as a giant dictionary that includes each atomic constituent and contains an entry that points to that constituent's semantic value (as well as its non-semantic properties). We can also think of the lexicon as a function that takes atomic constituents as inputs and outputs semantic values. Compositional rules combine semantic values to form more complex semantic values in light of the structure of the relevant logical form.

We construct a semantic theory for a language L by articulating a lexicon and a set of compositional rules for L . The semantic theory for L specifies the semantic rule system that determines how the logical forms of sentences of L may be associated with truth-conditions. For example, consider a simple language containing only two atomic constituents—the noun phrase 'Eunice' and the verb phrase 'is sleeping'.

The sole sentence of our simple language has the logical form (LF).

(LF) [[Eunice]np, [is sleeping]vp]s

posit pragmatic processes. Pragmatic processes are cognitive processes that take the semantic values associated with a logical form by the semantic rule system as input. The pragmatic processes then output the truth-condition relevant for an utterance of the sentence. These processes are pragmatic because they are not contained within the semantic rules system. Pragmatic processes make use of cognitive resources such as non-linguistic beliefs and topic neutral reasoning abilities that are not part of the semantic rule system. If one is sympathetic to such views, one will want to substitute something like 'propositional radicals' for occurrences of 'truth-conditions' in the rest of this paper.

- 6 While most lexical rules assign content directly to the constituent, for indexical expressions lexical rules only assign a denotation relative to a formal context. A formal context is a tuple of indices that model relevant features of utterance situations. Logical forms containing indexicals will only be associated with truth-conditions relative to formal contexts. In general, when I write 'associated with truth-conditions' that should be treated as including an elided 'relative to a formal context'. For the sake of brevity I will leave off this relativization to a context unless it is relevant to the discussion at hand.
- 7 The lexicon will also associate syntactic and phonological properties with lexical items. For my purposes, though, I will only be concerned with the semantic values associated with lexical items. In general when I write 'lexicon' unless I specify otherwise, I will be restricting my attention to the semantic component of the lexicon.

We can construct a toy semantic theory for this simple language. We construct the semantic theory by articulating the lexical and compositional rules that constitute the language's semantic rule system. I will assume the language has a domain consisting of one entity: eunice.⁸

Lexical Rules:⁹

(LX1) [Eunice]np \rightarrow eunice

(LX2) [is sleeping]vp $\rightarrow \lambda xw.x$ is sleeping in w

The only compositional rule for our toy language is function application:

(FA) [c, $\lambda x.Fx$]s \rightarrow Fc

We can apply the lexical and compositional rules to derive a truth-condition from (LF).¹⁰

(D1) [[Eunice]np, [is sleeping]vp]s (LF)

(D2) [eunice, [is sleeping]vp]s (by LX1)

(D3) [eunice, $\lambda xw.x$ is sleeping in w]s (by LX2)

(D4) $\lambda w.eunice$ is sleeping in w (by FA)

Given this semantic rule system there are no other semantic values that can be associated with (LF).

The derivation could have been constructed in a slightly different way. There is nothing in the semantic rule system, as I have described it, that would disallow a derivation that applied (LX2) before (LX1). Reversing the orders of (LX2) and (LX1) in the above derivation has no effect on the result of the derivation.

2.1.2. Optionality in Semantic Rule Systems

Optionality is a property of rule systems that can be used to construct derivations of outputs

8 I use lowercase for 'eunice' to follow the convention that the entities in a language's domain should be named by terms that begin with lowercase letters.

9 These rules state that if we have a line of a derivation with the left hand side of a rule as a constituent, we can write a new line for the derivation replacing the left hand side of the rule with the right hand side.

10 Though the derivation could be made shorter by applying more than one rule at a time, I go through the derivation step by step to be completely explicit. Going step by step will also help in my exposition of optionality.

from inputs. We can formulate optionality as follows.

Rule Systems That Do Not Allow Optionality: Rule systems according to which there is at most one derivation from any input.

Rule Systems That Allow Trivial Optionality: Rule systems according to which there is more than one derivation for at least one input, but there is at most one output derivable from each input.

Rule Systems That Allow Substantive Optionality: Rule systems according to which at least two distinct outputs can be derived from at least one input.

We can apply these formulations to semantic rule systems by replacing 'input' with 'logical form' and 'output' with 'truth-condition'.

Semantic Rule Systems That Do Not Allow Optionality: Semantic rule systems according to which there is at most one derivation from each logical form.

Semantic Rule Systems That Allow Trivial Optionality: Semantic rule systems according to which there is more than one derivation for at least one logical form, but there is at most one truth condition that can be derived from each logical form.

Semantic Rule Systems That Allow Substantive Optionality: Semantic rule systems according to which more than one truth condition can be derived from at least one logical form.

My primary goal in this paper is to argue for semantic rule systems that allow substantive optionality and to show to construct a semantic rule system that uses substantive optionality to account for metonymy. There is, however, a dialectical problem to overcome. Theorists, to my knowledge, have not proposed semantic rules systems which allow substantive optionality, but there has been no explicit discussion of why. I suspect that many theorists believe positing a semantic rule system that allows substantive optionality would lack *explanatory power*. In particular, such theorists hold that semantic rule systems play a specific role in explaining how interpreters assign truth-conditions to utterances of sentences. A semantic rule system with substantive optionality, the objection goes, would fail in that explanatory role. Jason Stanley presents such an argument in

“Semantics in Context.”¹¹ I will use Stanley's position as a foil for the sake of defending substantive optionality. Following my discussion of Stanley, I will explicitly contrast optionality with context-sensitivity and say more about how syntactic optionality has been used in theorizing about context-sensitivity.

2.1.3. Semantic Theory and The Generation of Intuitions

In “Semantics in Context” Stanley assigns a key explanatory burden to semantic theory. Stanley begins by noting that agents often have intuitions about the conditions under which the utterance of a sentence is true.

“In other words, competent English speakers have clear intuitions about the conditions under which what is said by an utterance of [“Some philosophers are from New York”] is true or false.” (Stanley 2005 1)

He claims that the source of these intuitions is an English speaker's semantic competence: her knowledge of the meanings of individual words of English, and her knowledge of how those meanings may be combined.¹²

“The apparent *source* [the emphasis is Stanley's] of such intuitions is not difficult to locate. Competent English speakers know the meaning of the words in the sentence ... They also know how to combine the meanings of each of the words in this sentence to arrive at what is said by the utterance of the sentence ... It is that linguistic competence that seems to be the source of their ability to report correctly about the truth of what is said by that sentence relative to different possible circumstances...” (Stanley 2005 1)

Stanley emphasizes this point:

“So, the explanation for our ability to report about the truth and falsity of what is said by an utterance of “Some philosophers are from New York” in various possible

¹¹ (Stanley 2005)

¹² Stanley's use of 'competence' follows the Chomskyan tradition in linguistics. In that tradition, a competence is understood as the tacit knowledge of linguistic rules. Syntactic competence is normally taken to be constituted by knowledge of the rules that generate logical forms and phonological forms. Semantic competence for a language would be knowledge of all of the lexical and compositional rules for that language. This account of competence leaves open the exact connection between having a competence and being able to actually speak or understand a language. While having a competence will clearly be part of the explanation of our linguistic abilities, the discussion in the next section investigates the extent to which we need to supplement a competence to arrive at an explanation for linguistic abilities.

situations is as follows. Competent English speakers know the meanings of the words used, and understand how they are combined. Their grasp of the truth-conditions of the utterance of that sentence is due to their ability to combine the meanings of the words, relative to the context of utterance.” (Stanley 2005 1)

The rules that make up the semantic rule system of English are known by any competent speaker of English. Knowledge of these rules, for Stanley, *suffices* to explain a language user's ability to associate truth-conditions with an utterance of an English sentence.¹³ Some theorists, called 'pragmatists', challenge the claim that knowledge of lexical and compositional rules suffices to explain a language user's ability to associate truth-conditions with an utterance of a sentence. The pragmatists, according to Stanley, believe that the truth-conditions associated with utterances of a sentence are not derived from the sentence's logical form using the semantic rule system. Pragmatic processes also play a role in explaining how a speaker associates truth-conditions with an utterance of a sentence. Pragmatic processes are cognitive processes that take as input the semantic values associated with a logical form by the semantic rule system. The pragmatic processes then output the truth-condition associated with an utterance of the sentence. These processes are pragmatic because they make use of cognitive resources such as non-linguistic beliefs and topic-neutral reasoning abilities that are not part of the semantic rule system. One of Stanley's examples is similar to (1a)

(2) The ham sandwich is getting annoyed.¹⁴

For many utterances of (2) 'the ham sandwich' is used to refer to a restaurant patron who ordered a ham sandwich. The truth-conditions that language users associate with utterances of (2) are about restaurant patrons and not ham sandwiches. But, the lexical rule for 'ham sandwich'¹⁵ associates the

13 In both passages quoted above Stanley equivocates between whether he is seeking to explain the source of the intuitions themselves or whether he is seeking to explain a speaker's *ability* to generate the intuitions. Compare the difference between explaining the source of Juliette's walking to the store and explaining the source of Juliette's ability to walk to the store. I will be assuming that Stanley is defending the weaker position: that he is seeking to explain the ability to associate truth-conditions with utterances.

14 (2) is an abbreviated version of Stanley's (9) from (Stanley 2005 4)

15 For the sake of simplicity I'm assuming that 'ham sandwich' is an atomic expression, though in reality it is composed from 'ham' and 'sandwich'.

expression 'ham sandwich' with a sandwich and not a person. Furthermore, Stanley claims that composing the semantic values assigned to the constituents of (2)'s logical form does not result in a truth-condition that is about a patron. The pragmatists believe that the truth-conditions associated with an utterance of (2) are fixed by a pragmatic process. Stanley is worried that the pragmatists' accounts: "invariably involve appeal to unconstrained and non-explanatory notions or processes." (Stanley 2005 3) For Stanley, to posit a pragmatic process to explain the intuitive truth conditions of utterances is to "abandon the clear and elegant explanation of the source of our truth-conditional intuitions..." (Stanley 2005 2). Stanley's goal in (Stanley 2005) is to defend what he calls the 'clear and elegant explanation'—that our knowledge of lexical and compositional rules suffices to explain our abilities to associate truth-conditions with utterances of sentences.

My concern here is not with defending pragmatic processes. However, positing substantive optionality in the relevant semantic rule system also threatens Stanley's 'clear and elegant explanation'. Let us assume a semantic rule system R that allows substantive optionality. Therefore, for at least one sentence S with logical form L , we can derive multiple truth-conditions from L using R . Assume there are two such truth-conditions: $T1$ and $T2$. Speakers will presumably have intuitions about which of $T1$ or $T2$ is relevant for a particular utterance of S . Therefore knowledge of the lexical and compositional rules in R cannot suffice to explain a speaker's ability to associate a particular truth-condition with an utterance of S . The explanation would be missing something: the resolution of the optionality. We would still need to determine whether the derivation of $T1$ or $T2$ is relevant for a particular utterance. If knowledge of lexical and compositional rules suffices to explain a language user's ability to associate utterances with truth conditions, it appears that we cannot accept semantic rule systems that include substantive optionality.¹⁶

16 "So, we have a predicament. If we look at certain sentences, there seems to be a clear and elegant explanation of why we have the intuitions we do about the truth conditions of utterances of those sentences. But if we consider utterances of other sentences, the explanation appears to break down. The first response to this predicament is to

While I agree that substantive optionality throws a wrench into Stanley's 'clear and elegant explanation', I believe that we have no good reason to accept Stanley's explanation. Knowing a set of rules does not by itself suffice to explain our ability to apply those rules towards a particular purpose. As an example, imagine Lucinda, an above-average student in introductory logic. As she is a strong student we can imagine that Lucinda has an exemplary grasp of all the rules of the Fitch derivation system for first order logic. If asked to apply any particular rule in the Fitch derivation system, Lucinda is fully capable of applying the rule correctly. Being a competent user of the individual rules for constructing a Fitch style-derivation, however, does not suffice to explain Lucinda's ability to construct a particular Fitch-style derivation. The ability to construct a particular Fitch-style derivation requires something over and above being able to apply each individual rule. Constructing a Fitch-style derivation also requires having the ability to select which rules ought to be used in particular circumstances. A person can be fully competent with applying each individual rule—can know each rule—for constructing a derivation while still having no ability to know *when* each rule ought to be applied in order to construct a derivation. While knowledge of the Fitch-style derivation rules will surely be a part of the explanation for Lucinda's ability to construct a derivation, that knowledge will need to be supplemented by what I call a *mobilization system*. A mobilization system for a rule system is an algorithm that determines when each rule in the rule system ought to be applied in order to produce an output.¹⁷ A rule system, as I understand it, will specify a class of well

attempt to preserve the clear and elegant explanation in the face of apparently recalcitrant data. The second is to abandon the clear and elegant explanation of the source of our truth conditional intuitions in favor of a different one." (Stanley 2005 2)

17 One might think that instead of being an algorithm that determines when to apply a given rule, a mobilization system is just an algorithm that produces the output of the rule system in such a way that it can be correctly characterized as having been described by that rule system. Roughly, the mobilization system is an implementation of the rule system. On such a view, competent users of a rule system never apply individual rules. Instead, they apply a mobilization system that produces the correct output. The rule system is relevant, however, because being an implementation of that rule system is a property of the mobilization system. While I think this more sophisticated account of mobilization has much to recommend it, it also would require a more extensive discussion. For reasons of space I will be bracketing it.

formed-derivations of outputs from inputs. The mobilization system will use the rules specified in the rule-system to form particular derivations that are relevant in a particular context. The Fitch-style rule system defines the class of well-formed Fitch derivations. But the mobilization system describes the cognitive processing that goes into constructing particular derivations on particular occasions. The mobilization system itself does not define a class of derivations, it describes the process whereby particular derivations are constructed on particular occasions.

In suggesting that a mobilization system is an algorithm I'm following standard practice in cognitive science (following Marr 1982) that there is a level of explanation where any cognitive process can be analyzed as an algorithm operating on symbolic representations. One might worry that our linguistic abilities, be they part of production or comprehension, cannot be described by an algorithm. These processes, the objection goes, involve probabilistic transitions or even indeterminacy, and hence are not suitable for being represented as an algorithm. I appreciate that we might want to complexify our model of how we should represent cognitive processes, but for the sake of simplicity I'm going to go along with standard practice and assume that cognitive processes can be described as algorithms.

One might object that we don't always need a mobilization system to explain how we apply a system of rules. Returning to Lucinda, it might be argued that while we must posit a mobilization system to explain her ability to *construct* derivations, we don't need to posit a mobilization system to explain her ability to *recognize* whether or not a particular derivation counts as a well formed Fitch-style derivation. Surely, goes the objection, knowledge of the Fitch rules suffices to explain her ability to recognize proper derivations even if it doesn't explain her ability to construct a derivation.

In response, I claim that positing a mobilization system is still required to explain Lucinda's ability to recognize whether or not a particular derivation is well formed. The need for a

mobilization system is less obvious in the case of derivation-recognition because the required mobilization system can be easily extracted from knowledge of the rules of the Fitch derivation system. Given knowledge of the Fitch derivation system rules, we can easily describe an algorithm for applying them to determine whether a putative derivation is well-formed. Here is an example of such an algorithm:

- A. The active line in the derivation is the first line.
- B. Determine whether the active line was formed in accordance with one of the Fitch rules.
- C. If the line was not formed in accordance with one of the rules, the derivation is ill-formed.
- D. If the line was formed in accordance with one of the rules proceed to E.
- E. If the active line is the final line of the derivation, then the derivation is well-formed.
- F. If the active line is not the final line of the derivation, make the following line the active line and return to B.

A person's ability to recognize whether or not a particular sequence of lines is a Fitch derivation relies on her knowing some algorithm that allows her to apply the rules.¹⁸ Of course, the algorithms that an individual actually knows will generally be far more complex than the simple example I provide here, but if Lucinda didn't know some algorithm that determined when to apply the relevant rules, she would not have the ability to recognize well-formed derivations.

As evidence, imagine that Lucinda instead knew only an algorithm that is similar to the

¹⁸ I want to emphasize that an algorithm need not be simple. This is especially true as on some views the mobilization system will take non-linguistic beliefs as input. On such views, we could potentially need to know what non-linguistic beliefs a language user has in order to know what the algorithm would output in a particular utterance situation. Some theorists, such as Chomsky, have claimed that the problems inherent in providing a scientific explanation of such mobilization systems may be so great as to be insoluble. "At the conceptual-intentional interface the problem are even more obscure, and may well fall beyond human naturalistic inquiry in crucial respects." (Chomsky 2000 125). Even if we don't accept Chomsky's skepticism, however, we can still recognize that a lot will go into the algorithm that goes far beyond the rule system itself.

above algorithm but that begins with A* rather than A.

A*. The active line in the derivation is the fourth line.

If Lucinda only knew the A* algorithm, she would not be able to consistently recognize whether a derivation was well-formed, despite being competent with each individual rule of the Fitch system. The algorithm she internalized would classify derivations whose initial three lines are ill-formed as being well-formed. This is because despite knowing each of the individual rules, she would not have a mobilization system that allows her to apply the rules correctly to perform the task she is aiming at.¹⁹ If she had no mobilization system whatsoever, there would be nothing to explain why she proceeds in an A-like manner rather than an A* like manner. A mobilization system is still needed for recognition, however it is harder to see this need because the algorithm that can serve as the mobilization system can be easily extracted from the rules themselves. Realistically, anyone who understands the rules will, in the absence of a serious deficiency, be able to extract the above algorithm. In the case of derivation construction, however, there is no obvious way to extract the mobilization procedure directly from the rules themselves. Something further is needed: the ability to decide when to apply a specific rule.

To return to semantic rule systems, I claim that Stanley is wrong to think that knowledge of lexical and compositional rules suffices to explain the ability to associate utterances of sentences with truth conditions. At the very least, a mobilization system is also required that will tell a language user

19 One might argue that knowing a rule is partially constituted by the ability to apply the rule correctly when the situation demands it; however such a claim seems to go against how we normally conceive of knowing a rule. Imagine a chess player who believes he is allowed to move both the white pieces and the black pieces during a game. Imagine that he is playing a game as white, and continually tries to move the black knight. Every time he moves the black knight, he moves the black knight in the proper L-pattern. Surely we should say that the player knows how the knight moves, despite not being able to play a move correctly. There is a difference between being competent with how the knight moves (knowing the knight rule) and knowing when one can play a knight move. An analogous point seems to hold in the logic case. A student might understand all of the rules that constitute the Fitch-system while still struggling with constructing difficult derivations. The reason is that constructing a derivation is often a difficult task that requires insight and intuition that goes beyond understanding the rules of the Fitch system. We wouldn't tell such a student to spend more time learning the individual rules!

when to apply particular rules. Stanley could reply that associating utterances with truth-conditions is more like derivation recognition than like derivation construction. Even if a mobilization system is required, we can easily extract a mobilization system from knowledge of the lexical and compositional rules. If semantic competence—knowledge of the lexical and compositional rules—allows the easy extraction of an algorithm for generating intuitions, then the competence from which the algorithm is extracted could be the sole source of the ability to generate those intuitions. If no algorithm can be easily extracted from the competence, any mobilization of the competence will require a mobilization system that will be constrained by the semantic competence but that will have to go beyond it.

If one thinks that semantic rules systems cannot have substantive or trivial optionality, it might appear that one could use the semantic rule system to construct an algorithm for assigning truth-conditions to logical forms as follows. On the assumption that the semantic rule system contains finitely many rules, at any particular step in any derivation there will only be one rule that can admissibly apply. The algorithm can sort through all the rules one by one to find the single rule that applies and then apply that rule. Proceeding in such a manner guarantees that we will get the desired derivation.

It is not much harder to extract a mobilization system from a finite semantic rule system with trivial optionality. At any stage in a derivation there might be multiple rules that could apply, but in the end, regardless of which rule is selected, the procedure will still have the same output. The algorithm would need some way of choosing between multiple rules, i.e. a fixed linear priority ordering over the rules, but absolutely any such ordering would provide the same results. Given that there are only finitely many rules, it is trivial that there is a function that allows us to choose a rule. For instance, given a finite number of rules in the semantic system, the algorithm could proceed

through the rules asking for each rule if it can be applied. If the rule can be applied, then it is applied, and the algorithm begins searching for the next rule that can apply.

It is not easy to extract a mobilization system for assigning *a single* truth-condition to each logical form from a system with substantive optionality.²⁰ If we wanted to create such an algorithm, at some point in the functioning of the algorithm a “decision” must be made about which rule to apply out of a number of admissible rules. The algorithm would assign different truth-conditions to the sentence depending upon how that decision is made.

To briefly take stock: Stanley claimed that knowledge of lexical and compositional rules sufficed to explain a language user's ability to associate truth-conditions with utterances. I have argued that knowledge of rules doesn't suffice to explain the ability to apply those rules, but Stanley could reply that in the absence of substantial optionality we should be able to extract a mobilization system from the rules themselves.

I will proceed by arguing that we have no reason to expect that we can extract a mobilization system from a semantic rule system. I will argue in two steps. Firstly, I will argue by analogy: claiming that we cannot extract mobilization systems for other tasks in which semantic rule systems play an explanatory role and that we cannot extract mobilization systems for other kinds of linguistic rule systems. Secondly, I will argue that having multiple mobilization systems for a single task can be useful, and that Stanley cannot accommodate such multiple mobilization systems without abandoning his claim that lexical and compositional knowledge suffices to explain how language users associate truth-conditions with utterances.

Other Linguistic Tasks: Stanley has suggested one possible explanatory role for semantic theory: to explain the source of our intuitions about the truth-conditions of utterances. Stanley, of

²⁰ We could easily construct a procedure that assigned a set of truth-conditions to each logical form, but that isn't what I'm after here.

course, never claims that this is the only explanatory role for semantic theory. Linguistic communication requires more than just interpreting utterances. At the very least, the production of utterances is also essential to linguistic communication. Presumably, semantic competence is also relevant to the production of utterances. A semantic competence for a language consists in a language user's knowledge of the semantic values of lexical items for that language and her knowledge of the ways of combining those semantic values. Presumably knowing the semantic values of lexical items will play an essential role in the production of sentences that include those lexical items.²¹ Even if an intuition-generating algorithm can be extracted from a semantic rule system without substantive optionality, such an algorithm does not play any obvious role in the production of utterances. Furthermore, it is hard to see how an algorithm for producing utterances could be extracted from a semantic rule system. We do not produce utterances by first constructing a syntactic structure and only then figuring out what truth-condition is to be associated with it. Nor do we produce utterances by reversing the process of assigning truth-conditions to sentences. Many different logical forms can be used to express any particular truth-condition.²² As a result, any system of rules that allows us to derive logical forms from truth-conditions would require a great deal of substantive optionality. Recall the general definition of substantive optionality.

Rule Systems That Allow Substantive Optionality: Rule systems according to which at least two distinct outputs can be derived from at least one input.

21 For example, imagine that Gus, an English speaker who knows no French, utters 'I went to the store.' Why did Gus make that utterance rather than 'J'ai allé au magasin.' (French for 'I went to the store.')

Presumably part of the answer is that Gus' lexical knowledge (among other things) includes knowledge of the meaning of English expressions but not knowledge of the meaning of French expressions.

22 This claim isn't obvious. There are some ways of individuating truth-conditions that would lead to each truth-condition being associated with a single logical form. However I suspect that most theorists would accept the claim that multiple logical forms can be associated with a single truth-condition. If there are any co-referential terms, for example, presumably two logical forms that only differ in co-referential terms (in non-opaque contexts) will express the same truth conditions. If 'Gus' and 'Mr. Gusterson' both denote the same individual, then the following two sentences will both have logical forms associated with the same truth-condition.

(i) Gus went to the store.

(ii) Mr. Gusterson went to the store.

If we take truth conditions to be the input to a rule system and logical forms to be the output, we have a system that has multiple outputs that can be derived from a single input and hence has substantive optionality. A rule system for deriving logical forms from truth-conditions will therefore not be amenable to the extraction of a mobilization system.

Stanley thinks that knowledge of lexical and compositional rules should suffice to explain the association of truth-conditions with utterances. Presumably knowledge of lexical and compositional rules should be relevant to a variety of linguistic activities: utterance interpretation and utterance production at the very least. When it comes to linguistic activities other than the interpretation of utterances, we are clearly unable to extract an algorithm from the rule system that would suffice to explain the activities.²³

Other Kinds of Linguistic Competence: When it comes to other linguistic rule systems, we cannot, in general, easily extract a mobilization system for making use of the competence directly from the linguistic rule systems. In particular it is widely accepted that we cannot extract an algorithm for constructing a particular logical form, relevant in a particular utterance situation, from syntactic rule systems. For example, one essential task in linguistic consumption is the association of a logical form with a perceived phonological structure. We might reasonably expect that an agent's syntactic competence would contribute to the assignment of a logical form to a phonological structure. Still, in the Chomskyan tradition theorists don't hold that syntactic competence suffices to assign a logical form to a phonological structure. Theories of syntactic competence do not describe rules that take phonological structures as an input and that output a logical form. Instead the described rules that constitute a syntactic theory generates syntactic structures for all the phrases of a language. We could easily extract an algorithm from the syntactic rule system that would, given

23 I use 'linguistic activity' in a broad sense. I intend to include both activities such as production and interpretation as well as different ways in which language might contribute to thinking or reasoning.

infinite time, construct all the logical forms of a language. However, we cannot easily extract an algorithm for constructing *particular* logical forms relevant for a particular activity (like consumption) from the rules that constitute syntactic competence, even given a phonological form as an input.²⁴

In fact, if we articulate a version of optionality that applies to syntactic rule systems, we can see that syntactic rule systems necessarily allow substantive optionality. We can treat a syntactic rule system as a series of rules that take a set of lexical items as input and allow us to derive logical forms. We can then define substantive optionality for a syntactic rule system.

Syntactic Rule Systems That Allow Substantive Optionality: Syntactic rule systems according to which at least two distinct logical forms that can be derived from at least one set of lexical items.

All generative syntactic theories (for natural languages), by their very nature, *must* describe syntactic rule systems with this kind of substantive optionality. Any series of finite rules designed to allow the derivation of an infinite number of outputs from finitely many inputs must allow substantive optionality. This can be demonstrated with a simple language: *A*. *A* includes a lexical item: 'a'. Sentences of *A* are formed by iterating that lexical item. Sentences of *A* include 'aaaa', 'a', and 'aaaaaaaaaaaaaaaaaaaaa'. For any natural number *n*, there is a sentence of *A* that includes *n* occurrences of 'a'. There is no way to provide a finite series of rules that describes the derivation of all the sentences of *A* unless we allow substantive optionality.²⁵ With substantive optionality, we can easily describe a syntax for *A* with the following rewrite rules.

24 For any particular logical form an algorithm will exist for constructing that logical form. The fact that the logical form is constructed by applying a finite number of syntactic rules to a finite number of lexical atoms entails that the algorithm will exist. The algorithm will simply list which rules to apply when. Even though this algorithm will exist, it is not easily extractable from knowledge of the syntactic rules. The reason we need an algorithm is to tell us which rules to apply in which situations. But extracting the algorithm from the competence seems to require that we already know which rules to apply in which situations.

25 Normally in speaking of syntax we speak of the derivation of logical forms from atomic constituents using syntactic rules. Since *A* is simply a toy language, and I haven't defined what logical forms would look like for *A*, I will keep things simple by talking about the derivation of sentences. Still this talk does not apply outside this one example.

(S1) $S \rightarrow aP$

(S2) $aP \rightarrow a$

(S3) $aP \rightarrow aaP$

Since both (S2) and (S3) have the same left hand side, at any stage in the derivation in which we have an 'aP' on the current line, the system leaves open the option of applying either (S2) or (S3). Without worrying about optionality, we can extract from this rule system an algorithm which given infinite time could form every possible sentence of *A*. However, if we want an algorithm that would generate a particular sentence such as 'aaa' or 'aaaaaaa,' we must know how to resolve the optionality in the rule system.

Substantive optionality is required in syntax but syntactic optionality does not undermine the ability of syntactic competence to contribute to an explanation of syntactic intuitions. A key reason for focusing on *competence* in the first place, is the recognition that competence does not describe an algorithm for producing the relevant intuitions. Any full explanation of intuition production would require explaining how a particular mobilization of the competence goes beyond the competence to resolve any optionality. Though Stanley claims that semantic competence can suffice for explaining a language user's ability to associate truth-conditions with utterances, no one claims that syntactic competence can suffice to explain a language user's ability to have intuitions about the grammaticality of sentences. Syntactic competence by its very nature as a system that allows infinitely many logical forms to be derived from finite atoms, must allow substantive optionality. We cannot extract an intuition-generating algorithm directly from syntactic competence.

To sum up the discussion so far. Stanley suggested that our knowledge of lexical and compositional rules suffices for explaining our abilities to associate logical forms with truth

conditions. In order for Stanley's explanation to hold, there cannot be substantive optionality in the semantic rule system. However I have argued that any semantic rule system which contributes to producing utterances will allow substantive optionality. Furthermore, any plausible syntactic rule system will allow substantive optionality. There is no analogue of Stanley's "clear and elegant explanation" when it comes to the syntactic side of utterance production or the assignment of logical forms to perceived phonological structures. In both cases, we recognize that mobilizing the competence requires a mobilization system that will resolve substantive optionality. In general, then, ease of extraction of a mobilization system is not required of a competence. If Stanley thinks that the association of truth-conditions with utterances is somehow different from other linguistic activities and the use of other linguistic competences, he owes us an explanation of what makes the association of truth conditions with utterances using semantic competence so special. Otherwise, Stanley is simply holding semantic theories to a standard that no other linguistic theories are being held to. Substantive optionality is par for the course in utterance production and in syntactic competence; I see no reason why it should cause a special problem for the association of utterances with truth conditions via semantic competence.

Multiple Mobilization Systems: Having multiple mobilization systems available can be useful for implementing a rule system. To see this we can look at how different algorithms can implement a single function. Take, for example the function $f(x) = \sqrt{x}$. Imagine that we have two distinct algorithms that can implement this function. The first algorithm *A1* is extremely fast, but provides results that are only accurate to three decimal places. The second algorithm *A2* is much slower, but provides results that are accurate to ten decimal places. Neither of these algorithms is objectively 'better' than the other. Which algorithm is appropriate will depend upon the task to be performed. In a task that requires little precision but that must be repeated often *A1* will provide better

performance, while in a task that requires more precision with fewer square roots *A2* will provide better performance. A single cognitive system might even include both mobilization algorithms and determine, based on the task and resources at hand, which mobilization ought to be used. Having more than one implementation of the function allows us to efficiently use the function in a variety of circumstances.

Similarly, a given rule system can be paired with different mobilization systems in different circumstances in order to provide better performance.²⁶ Just as a single system might include different implementations of the square root function, an individual's cognitive systems might include different mobilization systems for a single competence that are used in performing different tasks. Semantic competence could have one mobilization system for utterance interpretation, another for utterance production, another for the interpretation of written language, etc. Each mobilization could resolve optionalities in different ways, based on what was suited to the task at hand.²⁷

Stanley is not able to make use of multiple mobilization systems. A theorist could in principle reject substantive optionality and still claim that a semantic rule system could be implemented in different ways that give rise to different activities. But that move is not available to Stanley. If we have different mobilizations that result in different activities, then even in the absence of optionality we have undermined Stanley's 'clear and elegant explanation'. A language user's abilities will depend upon the ways in which their semantic rule system is mobilized, and hence knowledge of lexical and compositional rules will not suffice to explain the ability to associate truth-

26 Of course, a rule system isn't a function, but just as it can be useful to have different implementations of a function available, it can be useful to have different mobilizations of rule system.

27 One might object that we could have a system without optionality that still gets implemented in different ways. However, recall that the question is whether we should accept optionality. If a theorist rejects optionality because she wants the rule system itself to suffice as an explanation of a given linguistic ability, it isn't open to them to then claim that explaining the linguistic activities involves radical differences between different implementations of that system.

conditions with utterances.

Note that saying a semantic rule system can be implemented by different mobilization systems does not mean that *the actual activities* of language users are more flexible or underdetermined than a rule system implemented by a single mobilization system. What is flexible is *the way that the rules are mobilized*. Relative to a particular mobilization system, a semantic rule system with optionality might have a fully determinate and predictable output given a particular input. That predictability, however, comes from the way the rules are mobilized and not from the rule-system itself.

To conclude this section, I see no reason why we should accept Stanley's contention that knowledge of lexical and compositional rules suffices to explain our ability to associate utterances with truth-conditions. In general, competences do not provide sufficient explanations of linguistic abilities, and Stanley has not argued that there is something special about the association of utterances with truth-conditions. Furthermore, if we reject Stanley's explanation and accept substantive optionality, we can plausibly allow for a single semantic competence to be mobilized in different ways for different linguistic activities.²⁸

2.1.4. Substantive Optionality and Context-Sensitivity

28 Another objection is that substantive optionality violates the principle of compositionality: the principle that the semantic value of every complex lexical item is a function of the semantic values of its constituents. If multiple truth-conditions can be derived from a single logical form, this principle is violated. While substantive optionality violates the letter of compositionality it does not violate the spirit of compositionality. There are two standard motivations for compositionality: productivity and systematicity. (Fodor and Lepore 2002).

Optionality does not undermine productivity. Systems with optionality can still provide an explanation for our ability to be competent with an infinite number of logical forms on the basis of a finite number of rules. Similarly, substantive optionality does not make semantics less systematic. A semantic value assigned to a complex expression is generated by a rule-governed derivation that began with the lexical constituents and their mode of composition. Semantics is just not understood as a set of instructions for constructing any particular derivation. Someone who understands a lexical item in one context will be able to reapply it in any other context, using the same rules.

We can even articulate a weaker version of compositionality that allows for optionality: the set of all potential semantic values for any complex expression can be compositionally determined even if the individual members of that set cannot.

One objection that can be raised at this point is that for all intents and purposes substantive optionality is just context-sensitivity. After all, I'm suggesting that certain logical forms are associated with multiple truth-conditions, and that as a result different utterances of a single sentence can be associated with different truth-conditions. Context-sensitivity occurs when the truth-conditions associated with an uttered sentence depend upon features of the utterance situation. Am I not just embracing context-sensitivity? I don't think that I am. I will argue that substantive optionality is a claim about the structure of semantic-rule systems, while context-sensitivity is a claim about how the semantic values of uttered sentences relate to the circumstances in which the sentence is uttered.²⁹

When I say that a semantic rule system has substantive optionality I am making a claim about how truth-conditions can be derived from logical forms using the semantic rule system. I haven't said anything whatsoever about how truth-conditions are associated with utterances of sentences. As I argue above, semantic competence does not suffice for explaining how a speaker associates truth-conditions with utterances of a sentence. Semantic competence must also be mobilized by a mobilization system that tells a speaker when to use a given rule in the semantic rule system. A sentence is context-sensitive if different utterances of that sentence are associated with different truth-conditions. In principle a sentence can be context-sensitive even if the semantic rule system only allows the construction of a single derivation from the sentence's logical form. If the semantic rule system always associates a sentence with a particular truth-condition, but speakers associate different utterances of that sentence with different truth-conditions, the sentence would be context-sensitive, though the semantic rule system would only derive a single truth-condition from the sentence's logical form.

One might insist that even if there can be context-sensitivity without substantive optionality,

²⁹ If it seems obvious to you from the previous presentation that substantive optionality is distinct from context-sensitivity, so much the better for me! Still, I suspect that a number of readers will worry that substantive optionality is just context-sensitivity so I feel the need to explicitly explain why this isn't so.

there cannot be substantive optionality without context-sensitivity. Substantive optionality entails that multiple truth-conditions can be derived from a single logical form. Presumably some utterances of the sentence with the aforementioned logical form will be associated with one truth-condition, while other utterances of the sentence will be associated with a different truth-condition. Doesn't it follow that context determines which truth-condition the speaker associates with the utterance of the sentence? Not necessarily. A mobilization system determines when to apply optional rules. A mobilization system might use the context of utterance to determine when to apply optional rules (or which optional outputs to include) but appeals to context are only one way of determining when to apply optional rules. The resolution of substantive optionality could be fully determined by a mobilization system with no appeal to context of utterance. In such cases, a particular mobilization system might make a rule system look as if it allows no optionality. The optionality would only be visible if we compared distinct mobilization systems.

I suggested above that different kinds of linguistic activities could result from different mobilization systems mobilizing a single rule system. Perhaps utterance interpretation tasks are performed by a mobilizing system that resolves optionalities by using extra-linguistic context. Utterance production systems could mobilize the same competence while resolving optionalities in different ways: perhaps these optionalities are fully resolved by the speaker's intentions or some other feature of her psychology. There could exist distinct mobilization systems for interpreting spoken utterances and interpreting written texts that resolve optionality in different ways. We can allow optionality with no context-sensitivity. Or, we can allow optionality that is resolved by context-sensitivity in some mobilization systems but not others. Substantive optionality is a claim about the way a semantic rule system associates logical forms with truth-conditions, while context-sensitivity is a claim about how a speaker associates truth-conditions with utterances of sentences. The two claims

are about different things.

Due to the variety of linguistic activities that need to be explained, figuring out how particular optionalities are resolved in mobilization systems is a difficult empirical question, one that can be conceptually separated from the task of determining which semantic theories are correct. Empirical questions about the systems that mobilize competences are endemic in psycholinguistics. We need some psycholinguistic theory to explain how a mobilization system supplements syntactic competence in the generation of syntactic intuitions. There is nothing shocking about saying that parallel psycholinguistic questions arise for semantics as well. Substantive optionality doesn't make semantic rule systems unsystematic or unconstrained; in linguistic rule systems optionality is par for the course.

2.1.5. Syntactic Optionality

I have argued that despite Stanley's position, substantive optionality should be acceptable and expected in semantic rule systems. To explain a linguistic activity, a competence must be supplemented with a mobilization system. This supplementation is a standard empirical problem in psycholinguistics and the need for supplementation shouldn't threaten semantic theories that posit rule systems with substantive optionality. So far I have only argued for the possibility of substantive optionality in semantic rule systems. I have not yet provided a reason to think that substantive optionality actually obtains. One reason to take semantic optionality seriously can be seen by looking at how some theorists have begun taking *syntactic optionality* seriously in discussions of context-sensitivity. Many theorists, following Stanley,³⁰ want to restrict context-sensitivity to cases of indexicals or indexical-like constituents of logical forms. Such theorists claim that in all cases of context-sensitivity there must always be a constituent of the logical form that gets interpreted by a

³⁰ See for instance the papers in (Stanley 2007).

rule whose output differs from context to context. Josef Stern, for example, claims that metaphors involve an implicit demonstrative in logical form.³¹ Luisa Marti argues that in cases in which some theorists would posit unarticulated propositional constituents, cases like quantifier domain restriction or implicit locations, we should posit hidden indexicals that are assigned content relative to formal contexts.³² For example, Marti is concerned with sentences such as:

(3a) It's raining.

It is sometimes said that (3a) expresses the proposition that it is raining in a particular place. Marti claims that the logical form of (3a) includes a phonologically null location variable—a variable we neither write nor pronounce. A contextual location parameter then assigns a value to the variable. Francois Recanati has suggested that the place is contributed to the sentence's content by a pragmatic process. He argues that in some cases the location does not seem to be present in the content. He characterizes a case in which he claims there is no implicit location: (3b) which is taken from (Recanati 2002) and discussed in (Marti 2006).

(3b){Rain has become extremely rare and important, and rain detectors have been disposed all over the territory. Each detector triggers an alarm bell in the Monitoring Room when it detects rain. There is a single bell; the location of the triggering detector is indicated by a light on a board in the Monitoring Room. After weeks of total drought, the bell eventually rings in the Monitoring Room. Hearing it, the weatherman on duty in the adjacent room shouts:} It's raining!

(3b) supposedly shows that in some cases Stanley style variables are not present, for the truth-condition the sentence uttered in (3b) does not seem to involve any location.³³

Marti's response is to admit that the logical form of the sentence uttered in (3b) does not contain any phonologically null variables. She proposes that the variables in question are

31 (Stern 2000, 2006, 2011)

32 (Marti 2006)

33 One might respond to (3b) by claiming that the variable undergoes existential closure. Existential closure is already required for Davidsonian and NeoDavidsonian semantics for verbs. Recanati responds to this proposal in (Recanati 2005), arguing that if there was an implicit location variable that underwent existential closure we would predict readings of “It is not raining” that we don't get.

syntactically optional. The syntactic rules that generate logical forms for sentences like (3a) *allow* the inclusion of a syntactic location variable in sentences like (3a), but they do not *mandate it*.³⁴ The variable is a syntactic adjunct—an optional constituent. Recall that a syntactic rule system allows optionality if multiple logical forms can be derived from a single input. I'll assume that the input to the syntactic rule system is a set of lexical items.³⁵ Imagine that we are starting with a set of lexical items with the following three members: 'It', 'is raining', and 'in x'. Here, 'x' is a silent variable that has locations assigned to it. We can construct sentences using the following rules.

(M1) $S \rightarrow [NP, VP]_s$

(M2) $NP \rightarrow [It]_{np}$

(M3) $VP \rightarrow [is\ raining]_{vp}$

(O) $[is\ raining]_{vp} \rightarrow [[is\ raining]_{vp}, [in\ x]_{pp}]_{vp}$

The (M1-3) are mandatory, while (O) is optional. Using these syntactic rules we can derive two distinct logical forms from our set of lexical items: (LF1) and (LF2).

(LF1) $[[It]_{np}, [is\ raining]_{vp}]_s$

(LF2) $[[It]_{np}, [[is\ raining]_{vp}, [in\ x]_{pp}]_{vp}]_s$

In cases in which (3a) is being used with an implicit location, it has the logical form LF2. When, as in (3b), there appears to be no implicit location, (3a) has the logical form LF1. Marti explains the fact that the 'in x' constituent is sometimes present and sometimes absent by positing the same kind of syntactic rule that was used to construct sentences of *A*. Marti invokes accepted syntactic optionality as a way of explaining the occasional presence of the silent constituent.

34 This is not the only response. Another response would claim that in case like (3b) the silent variable is being bound by an implicit existential quantifier. I'm using Marti's view to explicate my view, however, so I'm not claiming that her approach is the optional response to Recanati's point.

35 This is not to say that the logical form is derived *directly* from the set of lexical items. According to pre-Minimalist Chomskyan syntax, we will first derive a d-structure from the lexical items. We then derive an s-structure from the d-structure, and only then do we derive the logical form from the s-structure.

Even granting that syntactic optionality is useful for explaining some cases of context-sensitivity, why might we need *semantic* optionality? I am skeptical of the existence of phonologically null syntactic structure but still think that different truth-conditions can sometimes be assigned to a single logical form.³⁶ In some cases there is nothing about the *structure* of the logical form that anchors the difference in truth-conditions. Instead, it is optionality in the way truth-conditions are derived from logical forms that allows different truth-conditions to be assigned to a single logical form. In order to see how substantive optionality could work in a semantic theory we need to look at a phenomenon in which different truth-conditions seem assignable to a single logical form without there being a single structural constituent of the sentence that plays the role of a context-sensitive variable. Metonymy seems to be an example of just such a phenomenon. Metonymy provides us with a case in which there is no lexical or structural ambiguity, but in which arguably different truth-conditions are associated with a single logical form³⁷

2.2. Metonymy

2.2.1. What is Metonymy?

Simple expressions have denotations assigned to them by the lexicon. Complex expressions have their semantic values determined by the semantic values of the simple expressions that constitute them and their syntactic structure. In cases of metonymy, expressions seem to have non-canonical semantic values—they appear to have semantic values that are not assigned by the lexicon or that are not derived directly from the semantic values of the constituent expressions and their structure.³⁸ In cases of metonymy we can say that an expression *shifts* its denotation from its *lexical*

36 In (Abrahams Unpublished) I argue against Stanley, Szabo and King's Binding Argument, a key piece of evidence intended to show the presence of phonologically null variables.

37 In section 2.3.6. I consider a Marti-style approach to metonymy, though I argue in the end my semantic approach is superior.

38 For the purposes of this paper, I will be restricting my discussion to *nominal* metonymy, where the expression that undergoes shifting is a noun phrase. Nothing substantive hangs upon this restriction. I suspect that metonymy occurs with verbs and adjectives as well as nouns. My account could easily be extended to accommodate this. For the

denotation to a *metonymic* denotation.^{39 40 41} Let us see some examples.

Imagine that Belinda is playing a video game. She presses a button and in response her onscreen avatar performs a jump over a virtual pit. One might report this event with (4).

(4) Belinda jumped over the pit.

The speaker seems to use 'Belinda' to refer to Belinda's onscreen avatar, rather than to Belinda herself. The lexical denotation of 'Belinda' is just Belinda. In a metonymic derivation for (4) the denotation of 'Belinda' appears to shift from Belinda to Belinda's avatar, thereby making

sake of simplicity, however, it is easier to make my argument with a restricted class of cases.

39 I am using 'lexical denotation' broadly here, to include semantic values of complex expressions derived from the lexical denotations of their parts and composed in accordance with their syntactic structure. That is to say, I use 'lexical denotation' to refer to semantic values determined by the lexicon. Some theorists will want to explain metonymy in terms of lexical ambiguity. For such theorists the metonymic denotation will also be lexical in a sense. In the final section of this paper I present arguments against the lexical ambiguity view.

There are two ways of characterizing metonymy. We can characterize metonymy as involving different ways of *using* a lexical item in utterances. On this characterization metonymy has nothing to do with the semantic rule system. Metonymy, on this characterization, occurs when we make use of the output of the semantic rule system while producing and interpreting utterances. If we have accepted an account of semantics that allows substantive optionality, then we can characterize metonymy by saying that the semantic system rule system allows different truth-conditions to be derived from a single logical form. In accordance with the former characterization, we can talk about metonymic or non-metonymic *uses*. In accordance with the latter characterization we can talk of metonymic or non-metonymic *truth-conditions* (or *derivations*). At this point of the paper, I don't want to prejudice the question of which characterization is superior, though in the end I prefer the latter. Though I use 'lexical denotation' and 'metonymic denotation', I want to remain neutral over whether these expressions are describing different uses or different semantic values.

40 In some cases that are occasionally classified as metonymy it is not obvious that there is a single lexical denotation. For example, the expression 'the newspaper' can denote a physical token, a type of that token, a company that produces those types and tokens, a building that houses the company, etc. Arguably, none of these denotations is privileged. While I will not be focusing on such examples, I believe my account of metonymy can easily accommodate them. I sketch how this can happen in ft. 62. If you believe that one of the denotations must be privileged, then the account described in the main text should suffice for you.

41 There is a variety of different terminology used for these cases, and one might wonder why I chose 'metonymy'. These cases are sometimes called cases of 'polysemy' as in Producer/Product polysemy. Polysemy is usually characterized as lexical ambiguity, and as we will see, metonymy occurs with complex expressions as well as atomic lexical items. Some cases, such as the 'ham-sandwich' cases are called cases of 'deferred reference'. While I think this label works for some cases, it isn't general enough. Though I'm focusing on metonymy in nominals, a similar phenomenon can occur with non-referring terms. James Pustejovsky calls these cases 'logical metonymies' in (Pustejovsky 1998) which is more in line with the way I think of them.

'Metonymy' is usually used to denote a "figure of speech" where we use a word to refer to a saliently related entity. (It can be compared to synecdoche where we use a word that denotes a part to refer to a whole. This is the sense that I'm riffing off of. That said, early 20th century work in linguistics often used 'metonymy' to denote a diachronic process—a process whereby new lexical items were created overtime. Other theorists use metonymy in a sense closer to 'metaphor,' though as I see it, metonymy involves shifting from one denotation to another related denotation, while metaphor involves using one meaning to characterize a potentially unrelated thing. Metaphor tends to be freer—it doesn't require conventional relations in the way I argue that metonymy does.

Belinda's avatar the metonymic denotation.

One well-known kind of metonymy involves language spoken by restaurateurs where expressions that denote meals shift to denote the customer that ordered the meal.⁴²

(5a) The steak and eggs at table five is getting antsy.

(5b) The ham sandwich at table five is a great tipper.

There are also cases in which expressions that lexically denote individuals metonymically denote depictions of those individuals.

(6a) In Madame Tussaud's' JFK is right beside Marilyn Monroe!

(6b) I walked into the National Portrait Gallery and immediately saw Virginia Woolf.

In another kind of metonymy, expressions that lexically denote a part of an entity can metonymically denote the entity as a whole.

(7) General Washington has finally arrived. (where 'General Washington' denotes the entire army)⁴³

The expressions that lexically denote geopolitical entities can shift to metonymically denote representatives of the geopolitical entities.

(8a) France is the best team at the World Cup.

(8b) After the game, France ate at McDonald's while Spain ate at Burger King.

(8c) When France arrived at the general assembly everyone immediately went silent.

In some cases expressions that lexically denote sources of products can metonymically denote the products themselves.

(9a) I've been reading lots of Kaplan lately.

42 Geoffrey Nunberg introduced these cases in Nunberg (1978).

43 In this case, it is possible that two contents are expressed: one that pertains to the army and one that pertains to Washington himself. I suspect that in many cases of metonymy we do in fact express multiple contents, but I won't be discussing that aspect of metonymy here.

(9b) I've been eating lots of McDonald's lately.

(9c) I've been eating lots of chicken.⁴⁴

An arbitrary expression cannot shift to have just any denotation. The metonymic denotation must bear a salient relation to the lexical denotation.⁴⁵ A full account of what counts as a 'salient relation' relative to a context of use would require a full typology of metonymy, which in turn would require going into many thorny details. Though interesting, those details are not crucial for my project of showing how a semantic rule system can accommodate metonymy. I do argue in 2.3.1. that mere salience is not enough to justify a metonymic shift—that only specific relations are able to license metonymy.^{46 47}

44 (9c) is sometimes taken to be an example of 'grinding.' Grinding is a process whereby a term that has primarily count uses gains a mass use. It has been argued (i.e. in (Pelletier 1979)) that all count terms can be candidates for grinding. The most discussed cases involve using the names of animals or plants to denote products made from the animals or plants. I discuss countability in more detail in section 2.3.2.. Still, it is important to see that even if every noun can be ground and given a mass use, it is not the case that grinding always involves the kinds of denotation shifts that I'm discussing. Take for example the nominal 'orange', denoting the fruit. Most occurrences of 'orange' are count occurrences in the sense that they require a determiner like 'a' or 'the'.

(iii) I ate an orange.

'Orange' can be ground to denote a stuff. After undergoing grinding, it no longer requires the determiner:

(iv) After the fruit truck exploded she had orange all over her.

Or it can be ground to denote a flavour:

(v) I taste orange in this wine!

But we cannot easily accept a mass occurrence that denotes a foodstuff.

?(vi) I've been eating lots of orange lately.

The lesson to draw here is that even if grinding can create mass occurrences for every nominal, it does not necessarily give rise to the same denotational shifts that we see in cases of metonymy.

45 In section 2.3.1. I argue explicitly that there are conventional constraints on what kinds of relations can license metonymic shifts.

46 I doubt that metonymy is a single unified phenomenon. Instead, I suspect that there are a variety of different phenomena which can roughly be classified as involving denotational shifting. If my suspicion is correct there will not be a single general formulation that encompasses all the cases I'm interested in. It is more productive to describe the phenomenon on the basis of examples, and to define metonymy by ostension—as whatever is going on in *those* kinds of cases.

47 One oft cited example of metonymy that I will not be discussing is (vii):

(vii) John and Mary are parked out back.

While it is sometimes said that in (vii) "John and Mary" shift to denote a car, Nunberg has suggested that in (vii) it is the predicate "are parked out back" that undergoes shifting. "John and Mary" doesn't appear to shift for other car-related predicates.

?(viii) John and Mary are painted cherry red.

?(ix) I dented John and Mary.

?(x) I just put a great new bumper sticker on John and Mary.

Since the nominal doesn't shift in many car related cases, I think that we can conclude that what shifts is the predicate. Since I'm restricting myself to nominal metonymy, I won't be discussing these kinds of cases.

2.2.2. Metonenglish

Rather than introducing my view directly, I want to begin by looking at a thought experiment that will aid in the presentation of my view and that will be relevant when considering objections.

In English there is no syntactic constituent that forces us to derive a metonymic truth-condition. There is no syntactically present operator with the meaning 'use metonymy now!' However, we can imagine a language, similar to English, in which metonymy-like shifts result from the presence of metonymy operators. This imaginary language, called 'Metonenglish', contains morphemes that attach to nominals that undergo metonymic shifting. Each morpheme is associated with a different kind of metonymy. When I introduced metonymy above, I presented different examples in terms of the kind of relationship between the lexical denotation and the metonymic denotation. There was the Player/Avatar relation, the Meal/Orderer relation, the Producer/Product relation, the Entity/Depiction relation, the Part/Whole relation and so on. Such a typology is obviously incomplete and would require much more evidence than what I have provided, but for now let us assume that we can define different kinds of metonymy in terms of the relation between the lexical and metonymic denotations. Metonenglish will contain a different morpheme for each type of metonymy. For instance, Metonenglish includes a morpheme 'av' that is appended to nominals. When a nominal has 'av' appended to it, the semantic rule system for Metonenglish associates the complex expression with the contextually salient avatar of that nominal. There will be analogous morphemes for the other kinds of metonymy: 'ord', 'prod', 'depic', etc.

In English we have a single sentence (10a) with shifted and non-shifted truth-conditions. In Metonenglish, there are distinct orthographic and phonological forms (10a) and (10b) for expressing the aforementioned two truth-conditions.

(10a) Belinda jumped.

(10b) AvBelinda jumped.

Similarly Metonenglish has a morpheme 'ord' that when appended to nominals makes the complex expression denote the individual(s) that ordered the dish lexically denoted by the nominal. In English we have one sentence (11a). In Metonenglish we have both (11a) and (11b).

(11a) The ham sandwich is getting irate.

(11b) Ord-the-ham-sandwich is getting irate.

We can provide a natural semantic theory for Metonenglish by relying on (Sag 1981)—a paper that formalized early work by Geoffrey Nunberg.⁴⁸ Their idea was that metonymy could be represented in semantic theories by *denotation shifting functions*.

For Sag, a pragmatic process inserts shifting functions into derivations from logical forms to truth-conditions. Some line of the derivation will include a term t that denotes the lexical denotation that will undergo metonymic shifting. The pragmatic process then enters a new line in the derivation that results from replacing t with a complex term $S(t)$ that embeds the original term t within S , a term that denotes a shifting function.⁴⁹ Sag claims that the denotation shifting functions are introduced by a pragmatic process for two reasons. First, he claims that *the content* of the denotation shifting function is determined by extra-linguistic context. Second, he claims that extra-linguistic context determines *when* to insert a denotation shifting function.

For our Metonenglish semantic theory let us take each kind of metonymy to be associated with a particular function. For Player/Avatar metonymy, there is an Avatar function (call it

⁴⁸ Nunberg's views developed into positing 'lexical licenses' as I describe below. Here I am referring to his earlier position in (Nunberg 1978) and (Nunberg 1979).

⁴⁹ One might have reservations about whether it makes sense for a pragmatic process to modify the derivation of truth-conditions from logical forms. These reservations raise interesting questions about the semantics/pragmatics interface, but I won't be addressing them here. Remember, I'm just using Sag's position as an expository tool, I'm not committed to its truth.

'Av()') that takes individuals to their contextually salient video game avatars. Similarly, there is an Orderer function (call it 'Ord()') that takes dishes to the contextually salient people who ordered that dish, and so on for other types of metonymy.⁵⁰ The semantics for Metonenglish lexically assigns each metonymy morpheme its corresponding denotation shifting function.

To see how, let us look at a toy fragment of Metonenglish. It contains the following lexical items: 'Belinda', 'Jumped' and 'Av.' The syntax for this fragment generates the following two logical forms:

(LF1) [[Belinda]np, [jumped]vp]s

(LF2) [[[Av]dp, [Belinda]np]np, [jumped]vp]s

The domain for our toy model will include two individuals: belinda, and mario (a video game avatar). We can then define lexical rules for assigning denotations to each expression in the fragment.⁵¹

(LX1) [Belinda]np \rightarrow belinda

(LX2) [jumped]vp $\rightarrow \lambda xw. x$ jumped in w

(LX3) [av]dp $\rightarrow \lambda x. Av(x)$

where Av() is defined as: {<belinda, mario>}

We have a single compositional rule:

(FA) $[c, \lambda x. Fx]z \rightarrow Fc$ ⁵²

Using these rules we can construct derivations of truth-conditions from both logical forms:

50 In the final section of this paper I argue contra Sag that metonymic shifting follows conventional patterns, and that as a result we can accept that for any particular language there are a set number of conventional metonymic shifting functions. Here I will just help myself to this conclusion.

51 As mentioned earlier, these rules state that if we have a line of a derivation with the left hand side of a rule as a constituent, we can write a new line for the derivation replacing the left hand side of the rule with the right hand side.

52 The 'z' is a variable ranging over phrase-types. It is there so that a single compositional rule can be used to form any kind of phrase, be it an NP formed from a DP and NP, or an S formed from a NP and VP.

- (DA1) $[[\text{Belinda}]_{\text{np}}, [\text{jumped}]_{\text{vp}}]_{\text{s}}$ (LF1)
- (DA2) $[\text{belinda}, [\text{jumped}]_{\text{vp}}]_{\text{s}}$ (by LX1)
- (DA3) $[\text{belinda}, \lambda x w.x \text{ jumped in } w]_{\text{s}}$ (by LX2)
- (DA4) $\lambda w.\text{belinda jumped in } w$ (by FA)

- (DB1) $[[[\text{Av}]_{\text{dp}}, [\text{Belinda}]_{\text{np}}]_{\text{np}}, [\text{jumped}]_{\text{vp}}]_{\text{s}}$ (LF2)
- (DB2) $[[\lambda x.\text{Av}(x), [\text{Belinda}]_{\text{np}}]_{\text{np}}, [\text{jumped}]_{\text{vp}}]_{\text{s}}$ (by LX3)
- (DB3) $[[\lambda x.\text{Av}(x), \text{belinda}]_{\text{np}}, [\text{jumped}]_{\text{vp}}]_{\text{s}}$ (by LX1)
- (DB4) $[[\lambda x.\text{Av}(x), \text{belinda}]_{\text{np}}, \lambda y w.y \text{ jumped in } w]_{\text{s}}$ (by LX2)
- (DB5) $[\text{Av}(\text{belinda}), \lambda y w.y \text{ jumped in } w]_{\text{s}}$ (by FA)
- (DB6) $\lambda w.\text{Av}(\text{belinda}), \text{jumped in } w$ (by FA)
- (DB7) $\lambda w.\text{mario jumped in } w$ (evaluating $\text{Av}(\text{belinda})$)

We could easily extend this fragment for other individuals, predicates and shifting functions. The semantics itself is fairly simple, using only standard logical apparatus. The metonymic shifting functions that are lexically assigned to Metonenglish's metonymy morphemes are formally analogous to functions from terms to terms that occur in formal languages such as FOL.

2.2.3. *My Account*

As the reader may anticipate, I think that contemplating Metonenglish can be helpful for understanding English. In fact, I don't think that English and Metonenglish are all that different. Metonenglish has lexical rules that assign denotation shifting functions to metonymy morphemes. English has, what I will call *optional interpretation rules*. An optional interpretation rule is a rule that inserts a metonymic shifting function into a derivation, even though there is no syntactic

constituent to which the shifting function is assigned. An optional interpretation rule will say that if we have a derivation that ends with a line that includes an entity-denoting term we can introduce a new line into the derivation that replaces the entity-denoting term with the result of embedding the entity denoting term in the inserted function. Standard lexical rules are not optional—they are required to interpret constituents of the logical form. Optional interpretation rules, on the other hand are not required to interpret any constituent of the logical form. The application of an optional interpretation rule during a derivation is optional.

Metonenglish had a morpheme 'av' and a lexical rule such as the following:

$$(\text{Lex}) [\text{av}]_{\text{dp}} \rightarrow \lambda x. \text{Av}(x)$$

English on the other hand will have an optional interpretation rule that can insert $\text{Av}()$ into a derivation.

$$(\text{OPT AV INSERT}) a \rightarrow \text{Av}(a)$$

Optional interpretation rules are part of the semantic rule system, just as lexical rules are. While lexical rules assign a semantic value to a syntactic constituent, optional interpretation rules insert a semantic value—the denotation shifting function—directly into the derivation. Since the denotation shifting functions do not correspond to anything in logical form, they are not represented in the *structure* of the sentence. They only appear during the associations of complete syntactic structures with truth-conditions.

Though the application of an optional interpretation rule is not determined by the logical form, the rule inserts what is essentially a semantic value into the derivation. We can think of belinda as the denotation of 'Belinda' because the lexical rule for 'Belinda' assigns belinda to that syntactic constituent. Similarly, we can think of the $\text{Av}()$ function as the denotation of the Metonenglish morpheme 'av'. In English we can think of the $\text{Av}()$ function as a denotation that is

not associated with any syntactic constituent. Rather than being introduced by a rule for interpreting a syntactic constituent, in English the $Av()$ function is introduced directly by an optional interpretation rule.⁵³

For example, take a fragment of English that includes 'Belinda' and 'jumped' as lexical items. The domain of entities for our purposes will include belinda and mario. The syntax of the fragment will generate a single logical form:

(LF) $[[\text{Belinda}]_{np}, [\text{jumped}]_{vp}]_s$

Our semantic theory will include the following rules:

(LX1) $[\text{Belinda}]_{np} \rightarrow \text{belinda}$

(LX2) $[\text{jumped}]_{vp} \rightarrow \lambda xw. x \text{ jumped in } w$

(OPT AV INSERT) $a \rightarrow Av(a)$

Again, we have a single compositional rule:

(FA) $[c, \lambda x.Fx]_z \rightarrow Fc$

Given this semantic theory, we can derive two distinct truth-conditions from (LF).

(CD1) $[[\text{Belinda}]_{np}, [\text{jumped}]_{vp}]_s$ (LF)

(CD2) $[\text{belinda}, [\text{jumped}]_{vp}]_s$ (by LX1)

(CD3) $[\text{belinda}, \lambda xw.x \text{ jumped in } w]_s$ (by LX2)

(CD4) $\lambda w.\text{belinda jumped in } w$ (by FA)

53 One might think that rather than positing optional rules that insert denotation shifting functions into derivations, I should be positing optional functions that directly shift denotations. Rather than a rule like (OPT AV INSERT) we could just have (OPT AV SHIFT).

(OPT AV INSERT) $a \rightarrow Av(a)$

(OPT AV SHIFT) $a \rightarrow b$ (where $b = Av(a)$)

I prefer (OPT AV INSERT) however. We can always get the (OPT AV SHIFT) result using the (OP AV INSERT) rule if we simplify immediately after the (OP AV INSERT). On the other hand, I claim in 3.5 that there are inferences we can capture correctly if we do not immediately simplify. For that reason, I prefer to use (OPT AV INSERT).

- (DD1) [[Belinda]np, [jumped]vp]s (LF)
- (DD2) [belinda, [jumped]vp]s (by LX1)
- (DD3) [belinda, $\lambda xw.x$ jumped in w]s (by LX2)
- (DD4) [Av(belinda), $\lambda xw.x$ jumped in w]s (by OPT AV INSERT)
- (DD5) $\lambda w.Av(belinda)$ jumped in w (by FA)
- (DD6) $\lambda w.mario$ jumped in w (Simplifying Av(belinda))

These two derivations are identical through the first three steps. In the second derivation, (DD4) invokes an optional rule, while in the first derivation the optional rule is never invoked.

Lexical rules are functions that assign semantic values to syntactic constituents. Optional interpretation rules insert functions denoting terms into a derivation by replacing terms that denote a semantic values with the result of embedding that term in a term that denotes the shifting function. This distinction is important because there is evidence that metonymic shifting depends upon the lexical denotation but not on the lexical item that undergoes shifting.⁵⁴ Most of the cases I have looked at have involved a simple nominal that undergoes metonymic shifting. In (10a), for example, 'Belinda' seems to undergo shifting. This might lead to the mistaken view that metonymy is somehow licensed by the lexical item 'Belinda.' This doesn't seem to be the case. Instead, a variety of complex nominals that denote Belinda can undergo shifting.

⁵⁴ One might react to my view by asking what's the "cash-value" difference between my view and a Stanley or Marti style approach that posits phonologically null variables that then get assigned metonymic shifting functions. The primary difference is that for Stanley and Marti, even if the variables are phonologically null they are present in logical form. They are part of the syntactic structure of the phrase. When positing shifting functions inserted by optional interpretation rules, the shifting function does not have to correspond to anything in the syntactic structure of the sentence. The metonymic shifting functions are not tied to anything in the logical form. They are added as a sui generis part of constructing derivations from logical forms to truth values.

I will bracket for now the question of why I think my approach is superior to one that posits phonologically null syntactic structure. I return to that question in 2.3.6. when arguing against alternatives to my view. For now I just want to be explicit about how my account differs from one that posits phonologically null elements.

(12a) The girl next door jumped over the pit.

(12b) My cousin jumped over the pit.

(12c) Carlos' boss jumped over the pit.

This isn't only true of the Belinda cases. All the cases canvassed above allow shifting with complex nominals.

(13a) I've been reading a lot of that funny philosopher from UCLA.

(13b) I've been reading a lot of you lately.

(13c) I've been eating a lot of that clucking feathered animal.

(13d) I've been wearing a lot of your favourite designer.

In all these cases the metonymy is allowed because the complex nominal denotes something that a shifting function can act upon. I will argue below that this fact is relevant for ruling out alternative approaches, but here I appeal to it in order to show why we might want optional interpretation rules that introduce denotation-shifting functions without interpreting any particular phonologically present atomic constituent. It should now be clear how my account relies on accepting substantive optionality in semantic theories.⁵⁵

At this point, I can imagine some readers objecting that there is a crucial difference between Metonenglish and English. In Metonenglish, on the one hand, we always know when a shifting function applies. The application of shifting function in Metonenglish is determined by syntax. In

55 One might wonder whether we could have a semantic account of metonymy that didn't involve optionality. On some accounts of the semantics/pragmatics interface, the view I examine in section 2.3.6. (which posits hidden indexicals) might count as such a view. But there is no obvious way to have a semantic approach that does not involve optionality or hidden indexicals. Sentences like (10a) are associated, on any semantic account of metonymy, with two different truth-conditions.

(10a) Belinda jumped.

If a theory wants to claim that there is more than one truth-condition that can be associated with this logical form, and that there is no hidden indexicals in the logical form, the only way for there to be two truth-conditions associated with the logical form is for there to be two different derivations of truth-conditions from the logical form. Any theory that allows derivations of different truth-conditions from a single logical form allows substantive optionality.

English the insertion of a shifting function is optional. Since, according to the objection, a rule system with substantive optionality is less systematic than a rule system without substantive optionality, the inclusion of optional rules legislates against my approach to metonymy. This objection rests on the claim that a semantic rule system that allows substantive optionality is, in virtue of having optionality, less systematic than a rule system that does not allow substantive optionality. The primary goal of the first section of this chapter was to refute that misconception. Once we recognize that knowing a rule system does not suffice to explain abilities that use that rule system, we recognize that a rule system can be fully systematic while still having substantive optionality. Syntactic rule systems necessarily allow substantive optionality and yet syntactic rule systems are not considered unsystematic.

I also want to emphasize that to say that denotation shifting functions are introduced by optional interpretation rules is not to say that denotation shifting rules are inserted by pragmatic processes. I'm not saying anything about pragmatics or about how the truth-conditions of utterances are determined by context. All I'm claiming is that we can describe a system of semantic rules that allows us to derive multiple truth-conditions from a single logical form. Nothing immediately follows about the psycholinguistics of parsing or production. Any claim about how we resolve the substantive optionality that I'm discussing goes beyond the domain of theoretical semantics and into the domain of empirical psycholinguistics.⁵⁶

56 One might suspect that if it is a psycholinguistic task to determine which truth-condition is being used with an utterance of a sentence, then we would see cases in which we associated both truth-conditions with the use of the sentence. We do in fact see this.

(xi) General Washington has arrived!

(xii) France is bristling with excitement.

(xiii) Belinda jumped really high!

(xi) can be used to simultaneously communicate that General Washington the individual has arrived and that his army has arrived. We might use (xii) to talk simultaneously about the country and the sports team. And if Belinda is playing a video game using a motion control system such as the Microsoft Kinect, she might perform a real life jump in order to make her virtual avatar jump. In those cases an utterance of (xiii) could be used to communicate both that the real Belinda jumped high and that her avatar jumped high. In many cases it is harder to find cases in which both the metonymic and lexical denotations of the sentence obtain in one context, but in such a situation you

There are several other obvious objections to my view that are based on crucial misconceptions. I want to canvas several of these objections, using Metonenglish as a tool for uncovering the misconceptions. The objections are: (1) the lack of clear definitions; (2) building too much into lexical meaning; (3) metonymy applies too broadly.

Lack of Clear Definitions: One worry holds that I am wrong in thinking that we can describe different 'types' of metonymy: metonymy is in fact far messier and harder to characterize than I have suggested. According to this objection, while I can point at examples of something like Producer/Product metonymy, I cannot provide any accurate definition that allows us to precisely define Producer/Product metonymy.

In response, I claim that there is no burden on me to provide a precise definition of the Producer/Product shifting function or any other denotation shifting function. In fact, it would be surprising, given my view, for any such definition to exist. Types of metonymy are like lexical meanings, though they are not associated with any syntactic constituent. We can virtually never provide precise characterizations of the meanings of lexical items. Natural language expressions rarely have precise definitions. There is no precise and accurate definition for 'producer' or 'product,' so it's not surprising that we cannot define the Producer/Product shifting function. Were we able to provide clear and accurate definitions for types of metonymy, that would be evidence against my view, since it would be a strong disanalogy between denotation shifting functions and standard semantic values.

What is required, on my view, is that we have a rough ability to classify metonymic shifting functions. This ability can break down in borderline cases, or other difficult circumstances. There is

can generally get both meanings. Take the gruesome set of circumstances in which Armani decides that after his death his body is to be made into a final outfit. This would be a rare (and frightening) case in which one could communicate both the metonymic and lexical truth-conditions.

(xiv) John is wearing Armani.

reason to think that messier characterizations of denotation shifting functions are possible. Such characterizations have been seen in the literature,⁵⁷ and we seem to have an intuitive ability to classify types of metonymy in rough terms. Furthermore, I will argue in section 2.3.1. that there are constraints and limits on metonymy. The existence of such constraints adds further heft to my claim that we can roughly characterize types of metonymy. The more constraints that we see on when metonymic shifts can occur, the more likely it is that we can come up with rough ways of classifying the denotation shifting functions.

Another way to put my response to the objection is in terms of Metonenglish. Would the objection apply to Metonenglish? Surely not! It does not matter that we cannot precisely define the 'ord' morpheme or the 'prod' morpheme. The lexical meanings of other words, verbs and adjectives in particular, are complicated and difficult to characterize. The roughness of the definition of 'prod' is par for the course, when it comes to lexical meanings. But the only difference between English and Metonenglish, on my view, is that the English 'prod' shifting function isn't tied to a particular syntactic constituent—a difference which surely isn't relevant to whether the characterization of the shifting function is precise enough.

Building Too Much into Lexical Meanings: Another objection holds that my account of metonymy requires building a lot of rich structured content into the lexicon. In section 2.3.1. I discuss cases in which there are constraints on metonymy. One constraint is that we can shift from an author to their work, although not from a translator to their work.

(14a) I've been reading lots of Kaplan lately.

?(14b) I've been reading lots of Ackrill lately.

Why can 'Kaplan' undergo a shift while 'Ackrill' cannot undergo a parallel shift? The objector would

⁵⁷ See, for instance, (Nunberg 1995 and 2002), (Pustejovsky 1995), and (Apresjan 1973).

claim that we must look to differences in the lexical meaning of 'Kaplan' and 'Ackrill.' According to the objector, the only way to make sense of a semantic account of metonymy is to claim that the lexical entry for 'Kaplan' will include a marker for 'author', or something of that ilk. A semantic account of metonymy would, on that view, require major commitments about the nature of lexical content. Even more damning, it is far from obvious that markers like 'author' ought to play any role in linguistic representations. Whether or not we take Kaplan to be an author is arguably not matter of the *meaning* of the expression 'Kaplan'. The belief that Kaplan is an author, the objector claims, is part of our general information about the world and is not a specifically linguistic belief. As a result, the belief that Kaplan is an author should be irrelevant to the lexical entry for 'Kaplan.' A semantic account of metonymy, according to this objection, can be criticized for building too much information about the world into the lexicon.

The objection concerning building too much into lexical meanings clearly does not apply to Metonenglish, and Metonenglish is not different from English in a way relevant to the objection. The puzzles raised by this objection apply to interpreting compound expressions in general. They are in no way specific to metonymy. For example, we can look at (15a).

?(15a) AvBurger King jumped.

Do we need to posit rich lexical structure in the meaning of 'Burger King' in order to have an effective semantics for sentences such as (15a)? The exact same question could be asked of the English sentence (15b):

(15b) Burger King's avatar jumped.

We might explain the anomaly of (15b) in terms of lexically encoded restrictions on how “'s avatar” can combine with other expressions. Or we might claim that (15b) is fully meaningful though obviously false and that since utterances of (15b) serve no communicative purpose, they are marked

as anomalous, or we might claim that (15b) is a case of a sentence whose nominal fails to refer. The characterization of restrictions on how words can combine with each other is a general puzzle in semantics. There is no special problem for Metonenglish. Similarly, any analysis of sentences like (15b) will require determining the extent to which we need to build beliefs about the world into lexical meanings. There is no puzzle specific to metonymy.

The key difference between English and Metonenglish—whether there are phonological and syntactic representations of shifting functions—is irrelevant to the question of *how* we compose shifting functions with other semantic values. The difference between English and Metonenglish only pertains to the question of *under what circumstances can we invoke metonymy*. Since the same puzzles occur in Metonenglish and English, in cases of metonymy and in cases that have nothing to do with metonymy, there is no special problem for my account of English metonymy.

Metonymy Applies too Broadly: Stanley has argued that deferred reference (a subset of what I've called 'metonymy') isn't amenable to a semantic treatment.⁵⁸ According to Stanley, we can use metonymy to shift virtually any expressions. Take Meal/Orderer metonymy as an example. Imagine a particularly creative restaurateur who serves cutting edge, avant-garde food. This restaurateur serves food that imitates lots of non- food entities: lawn-mowers, electrons, happiness, extended simples... Theoretically such a restaurant could serve food that imitates *anything*. For virtually any nominal in the language, the restaurant could serve a meal legitimately denoted by that nominal. As a result, any nominal can potentially undergo Meal/Orderer metonymic shifting. Since any nominal can undergo Meal/Orderer shifting, Stanley holds that we should explain metonymy in terms of how we *use* our semantic rule system rather in terms of the semantic rule system itself.⁵⁹

58 (Stanley 2005)

59 "A second consideration involves the *scope* of the phenomenon. One reason against taking metaphor to be semantic is that virtually any term can be used metaphorically. This suggests that metaphor has to do with the *use* of a term, rather than the semantics of a particular expression. Similarly, virtually any term can be used with a deferred reference." (Stanley 2005 229)

There is no parallel problem for Metonenglish morphemes. 'Ord', when attached to an expression, denotes a function that takes meals denoted by that expression to the contextually salient individual who ordered that meal. Ord() can apply to virtually any entity in the language's domain. Still no one would suggest that the shifting triggered by 'ord' is a matter of how we *use* a semantic system, rather than the semantic system itself. Such an objection would be like claiming that the operator 'it is necessary that' is not a part of English since it can be applied to any sentence. The shifting function that 'ord' denotes is lexically assigned to a constituent of logical form, and hence semantic on anyone's account.^{60 61}

As in the above cases, the differences between Metonenglish and English are irrelevant to this response. The difference between English and Metonenglish are differences in whether syntax mandates the insertion of a shifting function. However, the breadth of application of the Metonenglish 'ord' morpheme is the same as the breadth of application of the English Optional Ord Insertion rule. The fact that an expression has a given breadth of application does not provide evidence that we should take the expression to be a matter of 'use' rather than part of a linguistic rule system. We expect standard lexical items to combine with a large variety of other expressions and this breadth would be equally expected of optional lexical items.

60 Stanley's objection might hold if a semantic approach had to explain metonymy in terms of the meaning of the shifted expression. Metonenglish avoids this pitfall, however, by explaining metonymy in terms of a novel class of expressions—the shifting morphemes.

61 In (Stanley 2005), Stanley also presses another objection. He holds the semantic content must be adequately constrained by the lexicon. By 'adequately constrained' Stanley means that each the expression must be true of its denotation. So for instance, for an occurrence of 'ham-sandwich' to be adequately constrained by the lexicon, the expression 'ham-sandwich' must be true of its denotation. "At the very least, the semantic content of an expression, relative to a context, must be something of which that expression is true. If it is not, it is hard to see how the semantic content of that expression has been constrained by the conventional meaning of that expression." (Stanley 2005 10) In cases of metonymy, however, the expression is not true of the metonymic denotation. The predicate 'is a ham sandwich' is not true of the person who ordered the ham sandwich'. As a result, Stanley claims that shifted expressions are not constrained, and hence metonymy cannot be semantic.

This objections poses no problem for Metonenglish. Metonenglish nominals are all constrained in Stanley's sense. 'Belinda' denotes belinda. It is only the composite term 'Av(belinda)' that is evaluated to mario. If Stanley's objection did work, we would all be in serious trouble: fragments of first-order logic that include functions from entities to entities would be ruled out as inadequately constrained.

So far I have challenged the claim that semantic rule systems must avoid substantive optionality and have shown how we can make use of optionality to construct a semantic theory that accounts for metonymy. In essence, I have tried to offer a demonstration of how we might make good use of substantive optionality in semantic rule systems. Still, I imagine that many readers will be unimpressed. Sure substantive optionality *could* allow us to develop a semantic account of metonymy, but why should we want to develop a semantic account of metonymy? Some might object that metonymy is obviously a pragmatic phenomenon or that what I call metonymy is really just a form of lexical ambiguity. The rest of this paper presents specific motivations for developing a semantic account of metonymy and arguments against some reasonable alternatives. In the end I hope to show not only that we *can* adopt a semantic account of metonymy, but that we should.⁶²

2.3. Motivations for a Semantic Explanation of Metonymy

Why think that a semantic theory should describe rules that associate metonymic truth-conditions with logical forms? My strategy is to begin by describing two aspects of metonymy that any theory must accommodate: (I) ways in which metonymy appears to be conventional, (II) shifts in agreement and countability properties that accompany the denotational shifts in metonymy. After investigating these considerations in detail I will argue that my semantic account of metonymy does best at explaining them, when comparing my account to (A) a naïve pragmatic account; (B) a sophisticated pragmatic account; (C) a metasemantic account; and (D) accounts based on positing phonologically null syntactic structure.

⁶² In an earlier footnote I mentioned the possibility of metonymy-like phenomena where there is no one denotation that appears to be the sole denotation in the lexicon. I can now sketch how my account could accommodate such phenomena. In such cases, I would say that the semantic value assigned to the expression from the lexicon is not a denotation. Rather, a cluster of properties is semantically assigned to the expression by the lexicon. In these cases, rather than having a function from entities to entities, we would have functions from clusters of properties to denotations. In order for the system to assign truth-conditions to logical forms that describe sentences with polysemous lexical items, we are required to use optional lexical insertion to insert a function that would shift a cluster of properties to a composable denotation. In such cases of polysemy, shifting functions would be optional in a weaker way: while no particular shifting function is required, *some* shifting function must always be applied.

2.3.1. *Conventional Constraints*

One might think that metonymic shifting is available whenever the lexical denotation is related to the putative metonymic denotation in some way made salient by the situation of utterance. On such a view, there are no context-independent rules about whether a metonymic shift is available for use. All that matters is that the relation between the lexical denotation and putative metonymic denotation has been made salient in a particular situation of utterance. Given the proper situation, any relation could be made salient.

In this section I argue against the view described in the preceding paragraph. Not just any relation can serve to make a metonymic shift available for use. As I will put it, metonymy is *constrained*—limited to particular kinds of relations between lexical and metonymic denotations. Furthermore, I will argue that these constraints are *conventional*. By this, I mean that whether or not a particular metonymic shifting function is available depends upon conventions associated with particular languages. Most discussions of metonymy focus on cases in which shifting is successful. There is also much to be learned by looking at potential shifts that are unacceptable. I will not be arguing that my account of metonymy is the only way of explaining constraints and conventionality. For now, I simply want to establish these claims about constraints and conventionality. I will argue later that my account does better than competing accounts at accommodating these claims.⁶³

I will proceed by first looking in detail at metonymic shifting in which the lexical denotation is an author and the metonymic denotation is their work. I will show how in similar cases—cases in which an entity is related to the provenance of a written work in some other way—shifting is not available. Furthermore, I will argue that we cannot simply appeal to the “salience” of the metonymic

⁶³ The constrainedness and conventionality of metonymy has been recognized to a degree in the literature. For instance: (Apresjan 1973), (Nunberg and Zaenen 1992), (Nunberg 1995) and (Nunberg 2002). It is a key motivation for Nunberg's move to a metasemantic account in (Nunberg and Zaenen 1992), as I discuss below. However, in general, the conventionality of much metonymy is far less acknowledged than it ought to be.

relation to determine when shifting occurs and when it does not. After going through the initial test case, I will look at a number of examples of constraints on metonymy to demonstrate the ubiquity of the phenomenon though I won't discuss each example in the same detail. Finally, at the close of this section I will argue that not only is metonymy constrained, but that the constraints are conventional.

(16a) is a standard example of metonymy. In it, the author-denoting expressions shift to denote an oeuvre.

(16a) I love reading Kaplan. I learn something new every time I read him.

In general we can shift from authors to the works that those authors have produced. I want to first demonstrate that (a) we cannot engage in parallel shifts to putative metonymic denotations that bear different (but still relevant) connections to a book's provenance. Secondly I will argue that (b) even in cases in which authorship is not particularly relevant shifting is still allowed. Since Author/Book metonymy is allowed even when the author relation isn't salient and parallel forms of putative metonymy are not allowed even when they are salient, I conclude that there has to be a specific constraint that allows Author/Book metonymy but disallows the other parallel forms.

We can see a variety of cases in which entities that are related to the provenance of a work do not give rise to acceptable shifts. Translators make important salient contributions to translations they produce. Translators have individual styles and awareness of a given style might be extremely important to scholars working in a particular field. Yet even for philosophers studying historical works and discussing the translations, shifting from translators to their work seems disallowed.⁶⁴

(16b) I've been reading lots of Ackrill lately.

(16c) I've been working a lot with Guyer lately⁶⁵.

⁶⁴ Of course many translators are authors in their own right. Even if we can shift to work they have produced, we cannot shift to work they have translated.

⁶⁵ One piece of data that complicates these cases is that in certain constructions something like metonymy might be allowed for translators.:

(xv) I prefer the Cooper to the Ackrill.

(16b) and (16c) can only felicitously be used to discuss Ackrill and Guyer's philosophical works, not their translations.

Other similar restrictions include not using a publisher's name to refer to their books.

?(16d) I love reading Oxford University Press! I learn something new every time I read it.

Instead we would say:

(16e) I love reading Oxford University Press books.

Nor do we shift when discussing places that sell books.

?(16f) I've been reading lots of Barnes and Nobles lately. The store is on my way home from work.

These constraints still hold in contexts in which the properties of presses and bookstores are particularly relevant. (16d) would still be infelicitous during a tenure review, a situation in which relations between books and their publishers would be extremely salient, while (16f) would still not be relevant during a conversation about the decline of brick and mortar bookstores, despite the fact that in that conversational context the relation between books and the places they are bought is salient. We can even imagine a particular store, called it Charlie's Mystery Shack, that only stocks one very particular kind of mystery novel. It still seems odd to say to a devoted mystery fan:

?(16g) I've been reading lots of Charlie's Mystery Shack lately.

Furthermore, the relations that seem to license metonymic shifting are not generally symmetric. That is to say, we can use the name of an author to refer to a book, but we cannot generally use the name of a book to refer to an author. Compare the following:

(16h) If I could read any author in history I would read George Elliot.

?(16i) If I could meet any book in history I would meet *Middlemarch*.

(xvi) I've been working a lot with the Guyer.
Here however it seems essential to have the definite article.

But if all that matters is that the relevant relation be salient in context, and we know that the relation between authors and books is salient enough to license metonymy in (16h), we would expect that the relation between books and authors should be enough to license metonymy in (16i).

Some readers have responded that they can easily imagine scenarios in which (16b), (16d) and (16f) are acceptable. The response goes like this: what if there was a group of editors whose entire job was concerned with publishing translations? Surely they could use (16b). Or, for that matter, imagine there are scholars whose primary area of study is the sociology of academic presses. For such scholars, (16d) might be acceptable. But those are just situations in which the relevant relations were made *very* salient and so for all I've said the salience story might work.

I agree that we can imagine a situation in which editors of translations felicitously utter sentences like (16b). However, I deny that these imagined situations provide any support for the salience approach. We need to distinguish claims about *currently existing* forms of language from the claims about *possible* forms of language. This distinction is essential when we are contemplating linguistic intuitions about possible scenarios. In such cases we must determine whether the intuition is about *our language* as it is spoken in that scenario or whether we have implicitly changed the language in the possible scenario. We can, for example, imagine a possible scenario in which Fred, who eats lots of carrots gets assigned the nickname 'Carrots' as a result. Discussing such a situation tells us nothing about what our word 'carrots' means—we are imagining a situation in which 'carrots' has gained a new meaning or in which a new lexical item homonymous with 'carrots' has entered the language.

The question for us, then, is whether in imagining the above situations we are implicitly changing the language or not. One test is to ask whether the imagined speakers would still use the relevant forms of metonymy in situations in which their professional interests are not particularly

relevant. If speakers use the relevant forms of metonymy when their professional interests are not salient, then the metonymy stems from a systematic change in their lexicon. If speakers only use the relevant forms of metonymy when directly concerned with their profession then the metonymy is truly being licensed by relations made salient in particular circumstances.⁶⁶

When I imagine a group of translators felicitously using (16b), I have a strong intuition that they can then use Translator/Translation metonymy in any situation in which a translation is under discussion even if the relation between translators and their works bears absolutely no salience in that situation. It is not some feature of a particular situation they are in that seems to justify the metonymic shift; it is a general features of their lives. If one is an editor of translators who uses Translator/Translation metonymy in some circumstances, it seems as if Translator/Translation metonymy would be admissible in *every* situation. If one is not an editor specializing in translations, making translations salient doesn't seem to license Translator/Translation metonymy. What is relevant in these imagined scenarios is not merely some features of the particular situation but some general feature of the speaker's life. This strongly suggests that when we are imagining these alternate scenarios we are actually imagining scenarios in which translators speak a slightly different language than we do. We can see how, given their professional needs, it might make sense for them to modify their linguistic resources. Just as we can easily accept that Fred is called 'Carrots' in a situation in which he eats a lot of carrots, we can imagine that translation editors might begin using Translator/Translation metonymy; but such intuitions do not undermine my claim that in our

⁶⁶ One might be concerned that this test is problematic for my treatment of “ham-sandwich” cases. Are they not, after all, cases where speakers only use metonymy in a very particular set of circumstances? I suspect that restaurant workers could use ham-sandwich metonymy outside their professional capacity, however there simply are not many other circumstances (outside of restaurants) where they interact with individuals who have ordered meals.

Aside from this response, the crucial claim for my argument is that users of the supposed Translator/Translation metonymy could clearly use such metonymy in situations where translators and translations are not salient. It is enough for me that users in non-salient circumstances evidence a convention. I don't require the further claim that when a putative form of metonymy is only used in salient circumstances there is no convention.

language, as it is currently spoken, such metonymy is not available.⁶⁷

So far I have argued that other salient Book/Individual relations do not give rise to metonymic shifts. I also want to argue that author metonymy is always acceptable, even when the Author/Book relationship isn't salient.

One way in which the Author/Book relationship could fail to be salient would be in cases in which the fact that a given person wrote the book fails to provide any salient information about the book. If facts about a book's provenance are not relevant to a conversation, it is hard to see why the Author/Book relationship could be salient. One potential example is Rodney William Whitaker, author of the satire *The Eiger Sanction*, better known by his pen name 'Trevanian'. Trevanian's works were written about a number of topics, in a number of different literary genres. They were diverse enough that some believed that 'Trevanian' was actually a collective made up of different authors. In many circumstances, then, the fact that a book is by Trevanian will not provide us with much useful information. Still, we can always say:

(16j) I've been reading a lot of Trevanian.⁶⁸

So even when authorship is not correlated with any relevant properties of that author's work, we are still able to engage in author metonymy.

Even in situations in which authorship is completely irrelevant we can still engage in Author/Book metonymy. Imagine that Fred asks Sam to pick out a book at random to balance a

67 Peter Ludlow has argued in (Ludlow 2006 and 2007) for a dynamic lexicon: the view that lexical meanings often change and get renegotiated in particular conversational contexts. Even if we reject the radical ubiquity of Ludlow's dynamism, surely something is right in the claim that the lexicon can change and often does in the kinds of circumstances we have been discussing. Different professions have their own jargons and their own specialized uses for natural language terms. Given that we, as speakers, have to get around in a world in which others might use different common terms with very different meanings, it is unsurprising that when imagining groups with very different needs we would be liberal about modifying the meanings of expressions to suit their uses.

68 This isn't to say that Trevanian's work doesn't have any important similarities. It just isn't clear that the Trevanian-similarities are any less salient than the myriad similarities in the oeuvre of a single translator or editor. There are many other analogous cases: a philosopher who produces poetry on the side, unrelated to her philosophical work, or an author who has produced work of wildly differing quality as well as genre.

wobbly table leg. Sam could respond:

(17) Here, take Aristotle.

There is nothing about that particular situation that makes the Author/Book relation salient to the conversation. There may be other aspects of the book that are more distinctly identifying; perhaps it has a neon pink cover. (17) is still fully acceptable despite the fact that there is absolutely nothing about the situation that makes the Author/Book relation (or the author) relevant. The lesson here is that Author/Book metonymy is available in any situation, regardless of whether or not authors are particularly salient.

I have so far argued that Author/Book metonymy is available, even when authorship is not salient. Furthermore, I have argued that other relations pertaining to the provenance of a book do not make metonymy available even in situations in which they are salient. As a result, I conclude that Author/Book metonymy is constrained: it is specifically licensed and does not depend upon situational salience.

I next want to briefly go over a number of other cases in which we see similar constraints. I will not be looking at them all in such detail. I am aiming to show that these constraints on metonymy are ubiquitous, but it would take too much space to look at every example in full detail. With many cases of metonymy, whether or not a shift is available requires specialized knowledge and cannot simply be inferred from what is salient in the situation. For example we refer to a person's clothes in terms of the individual or company that designed them.

(18a) Josh is wearing Armani.

However, imagine one were to walk into a store and see a T-shirt that Josh, a unique and stylish dresser, often wears. One would never say:

?(18b) Josh is hanging on the rack!

Similarly, while (18c) is fully acceptable, (18d) is not, even if Josh is an extremely distinctive dresser.

(18c) Wow, that high end consignment store is filled with Armani!

?(18d) Wow, that high end consignment store is filled with Josh!

Examples (18a-d) seem to show that in cases of clothing metonymy the lexical denotation must be the designer of the clothes. Even then, the metonymy seems better if the designer is particularly high end. These constraints do not simply arise out of general salience, since the fact that Josh wears particular clothes might be salient without making (18d) available.

We use metonymic shifts with restaurants but not other locations where we can purchase food.

(19a) I've been eating lots of Burger King lately.

?(19b) I've been eating lots of Ithaca Farmer's Market lately.

?(19c) I've been eating lots of Walmart lately. It is so much cheaper than eating Safeway.⁶⁹

Again, if metonymy depended solely on salience, we would judge (19b) and (19c) to be as good as (19a). Instead there seem to be constraints that are not based on salience that make (19b) and (19c) unavailable.

As mentioned above, while we might use metonymy to discuss food cooked by famous chefs:

(14a) I've been eating lots of Batali lately.

we would not do so with food cooked by friends, even if the food is extremely distinctive.

?(14b) I've been eating lots of Fred lately.

Even though Fred is the producer of the food, that does not suffice to make a metonymic shift available. Instead the producer must apparently satisfy other conditions: perhaps she must be

⁶⁹ Though there might be some cases in which shifting to a food store is allowed.

(xvii) I've been eating lots of Whole Foods lately.

famous, high class or be identified with a brand. Whichever further constraints turn out to be needed, they go beyond the mere salience of the Chef/Food relation.

There are also interesting constraints that allow for shifts between animals and the food we make from them, but not plants and the food we make from them. When discussing certain kinds of food we can use the name of the source animal to denote the food even if we are only eating a part of the animal.⁷⁰

(20a) I'm eating chicken.⁷¹

(20b) I'm eating lamb.

For some animals the shift appears to be rare but available.⁷²

(20c) I'm eating beef.

(20d) I'm eating cow.⁷³

However, when discussing vegetable foods we often use the name of the part of the plant being eaten we cannot use the name of the plant itself (when it differs from the name of the eaten part).

(20e) I'm eating grapes.

?(20f) I'm eating vine.

?(20g) I'm eating grape vine.

(20h) I'm eating walnuts.

?(20i) I'm eating walnut tree.

70 Many of the food cases are discussed in (Nunberg and Zaenen 1992) and (Nunberg 2002).

71 One might suspect that in this case there is no metonymy. 'Chicken' is just lexically ambiguous: it has an animal denotation and a food denotation. However, the same pattern of putative denotation shifting can occur with virtually any expression that denotes an animal. This suggests that it is the result of a general rule, rather than lexical ambiguity.

(xviii) Tonight I'm eating that feathered, clucking animal.

We presumably don't want to say that every complex expression that can denote an animal is somehow lexically ambiguous.

72 Historically, these are animals for whom English has adopted the French name of the animal, i.e. 'boeuf', to denote the foodstuff, i.e. beef.

73 There seems to be a fair amount of variation in interpreting (20d). I suspect that there may be a generational linguistic change, according to which younger speakers are more accepting of (20d).

We can use metonymy in the other direction, referring to the entire plant by the name of the part that gets eaten.

(20j) I'm planting grapes.

(20k) I'm planting walnuts.

If metonymy was simply based on what relations happened to be salient in a given situation there would be no explanation for these general constraints. The relation between a chicken and a drumstick is no more salient than the relation between a grape vine and its fruit.

We also cannot shift from an animal or plant to liquids that are produced by that animal or plant.

(20l) I'm drinking milk.

?(20m) I'm drinking cow.⁷⁴

(20n) I'm drinking orange juice.

?(20o) I'm drinking orange.⁷⁵

?(20p) I'm drinking an orange.

(20q) I'm drinking grape juice.

?(20r) I'm drinking grape.

I doubt there is anything about foods that make them more salient than drinks. The Animal/Food relation is not automatically more salient than the Plant/Food or Plant/Drink relations. The availability or lack of availability of these metonymic shifts is due to specific constraints on how

74 There does seem to be an odd but acceptable reading of (16b). If one were to blend a steak in a blender and drink the resulting concoction, we might be able to describe it as in (16b). In many cases it seems like we can get a 'drink' reading if we blend the stuff that makes up an entity. Still, this isn't true in cases in which there is an actual drink that made from the stuff. So for instance even if we drank the result of blended a crate of oranges, we wouldn't say: "I'm drinking orange".

75 There are some contexts in which (20o) would be acceptable. If Gus is responding to the question: "Which juice are you drinking?", then (20o) is an acceptable response. In such cases, however, the question must be salient in the previous discourse. This suggests that some form of deletion or copying is occurring, where we either delete 'juice' or implicitly copy it from the question into the answer. These deletion or copying phenomena are distinct from metonymy.

shifting can happen. Similarly, we can sometimes use metonymic shifts to refer to an entity by a particularly salient part.

(21a) General Washington finally arrived! (where 'General Washington' denotes an entire army.)

On the other hand, there are some cases in which it is extremely odd to refer to an entity by a part.

?(21b) Eddie Vedder is touring again! (where 'Eddie Vedder' denotes his band Pearl Jam)

The availability of the metonymic shifts is *constrained*. Whether or not particular shifts are available is not simply a matter of whether the connection between the original denotation and the shifted denotation is salient.

I have argued that metonymy is constrained. I now want to move on to claim that those constraints are based on convention. There is evidence that patterns of metonymy are language dependent and hence dependent upon the conventions of that language. Apresjan writes in (Apresjan 1973) that in Russian there is a common form of metonymy according to which a disease is referred to by expressions that denote the part of the body it affects. People will commonly say 'I have a heart' to mean they have heart disease or 'I have a lung' to mean they have asthma. This kind of metonymy is, as far as I am aware, virtually never used in English. This on its own is strong evidence that metonymy is highly conventional as what counts as admissible metonymy differs from language to language. (Nunberg 2002) reports on private correspondence with Jerrold Saddock in which Saddock claims that in Inuit languages metonymic shifting from animals to foods made from those animals is not allowed though other kinds of metonymic shifts are acceptable. Nunberg also points out that in French speakers use the name of fruits to denote brandies made from those fruits. These kinds of cross-linguistic differences strongly suggest that the constraints on metonymic shifting are conventional. Above I discussed cases in which we can imagine patterns of metonymy

that are not currently available becoming available for a language. Again, if this is possible then it follows that metonymy must be, at least to a degree, conventional.

2.3.2. *Agreement and Countability*

Another interesting feature of metonymy is that denotational shifts are sometimes accompanied by shifts in how a nominal agrees with verbs and shifts in a nominal's *countability* – a property I explain below. I also aim to demonstrate in this section that these grammatical shifts are productive: they apply across domains of metonymy and are not restricted to individual lexical items. In the final sections of the paper I will make use of these facts in arguing for my approach.

To begin, I want to show that metonymy sometimes seems to involve grammatical shifts. Metonymic shifts are sometimes accompanied by changes in features relevant to *agreement*.⁷⁶ In normal English sentences, the grammatical number of a subject governs how the sentence's main verb is to be inflected. For example in the following, 'Claude' is grammatically singular, and as a result, the verb, 'to be' is in the singular form 'is'.

(22a) Claude is smiling.

In a parallel construction with a plural subject the verb 'to be' must be in the plural form 'are'.

(22b) Claude and Esmerelda are smiling.

Sentences in which the verb fails to agree with the subject give rise to strong intuitions of grammatical deviance. Most speakers of standard American English refuse to accept the following sentences.

*(22c) Claude are smiling.

*(22d) Claude and Esmerelda is smiling.

⁷⁶ Nunberg writes about some of the interesting grammatical properties of metonymic expressions in (Nunberg 1995), but he goes on to draw very different conclusions from the data. He wants to argue that we should think of the common noun 'french fries' shifting rather than the noun phrase: 'the french fries'. However, such an account fails to help in the 'France' case I discuss below.

One intriguing features of some (though not all) metonymically shifted sentences is that the verb does not have to agree with the number of the actual subject expression. Instead, the verb can agree with the number we would canonically assign to an expression that lexically denotes the metonymic denotation. As Nunberg has noted,⁷⁷ this occurs in some of the 'ham sandwich' style cases.

(23a) The sweet potato fries is getting antsy.

?(23b) The sweet potato fries are getting antsy. (Where 'the sweet potato fries' is denoting a single individual)⁷⁸

The verb 'is getting' in (23a) is inflected for a singular subject despite the fact that the expression 'the sweet potato fries' is grammatically plural. In (23a), not only does 'sweet potato fries' seem to shift to a new denotation, but a grammatical feature associated with the standard denotation (plurality) can shift to a grammatical feature associated with the new denotation (singularity). My intuitions are that given the restaurant context (23b) would not be acceptable, though anecdotally intuitions are more mixed in this case. This shows that in Meal/Orderer metonymy, at least for some speakers, a grammatical shift may even be required.

In some cases it appears that a singular nominal shifts to take on the properties of a singular collective nominal like 'team' or 'committee'. In American English singular collective subjects must have singular inflected verbs, but in British English singular collective subjects agree with plural inflected verbs. So we would expect that in British English (24b) and (25b) are acceptable. My intuitions, as a speaker of Canadian English are that they are acceptable.

(24a) France is going to win. It is a great team!

(24b) France are going to win. They are a great team.

⁷⁷ (Nunberg 1995)

⁷⁸ Interestingly, this phenomenon appears not to work in the other direction. Imagine a group orders a pizza together and begins getting raucous.

(xix) The pizza is getting raucous.

?(xx) The pizza are getting raucous.

(xix) Sounds much better than (xx) to me.

(25a) Table five is getting raucous!

(25b) Table five are getting raucous!

There is evidence that these uses are common in England. For instance, the following excerpts are from the Guardian's live blog of the France/Spain match at the 2012 Euro Cup.:

(26a) Spain are tiki-ing and taka-ing pretty much as you'd expect.

(26b) SPAIN HAVE LUMPED IT LONG!

(26c) But guess what Spain haven't got!

(26d) France are rocking!

(26e) France are all over the shop!

(26f) Spain have locked this down brilliantly, fair play to them. France are offering nothing.⁷⁹

When denoting a team, 'France' seems to take on the grammatical properties of a singular collective nominal. For American English speakers, there is no noticeable difference, but for speakers of British English, sentences like (24b) and (25b) become acceptable.

There are other tests for whether or not a noun is collective. For instance, collective nouns can be used in constructions that end in 'together'.

(27a) The team worked together.

?(27b) Claude worked together.

Since 'the team' is a collective term, (27a) is felicitous, but since Claude is not a collective term (27b) is judged deviant. Team metonymy appears to be admissible in these 'together' constructions.

(27c) Boston works well together during practice.

(27d) New York doesn't work well together during practice.

79 <http://www.guardian.co.uk/football/2012/jun/23/euro-2012-spain-france-live>

This suggests that some grammatical shift is occurring, even in American English.⁸⁰

For my purposes, this shift is particularly important because theorists distinguish between *syntactic* agreement and *semantic* agreement. Syntactic agreement occurs when the inflection of a verb (or other expression) is controlled by the syntactic properties of another expression. In cases of semantic agreement, however, the inflection seems to be controlled by the semantic properties of a denotation rather than the syntactic properties of the denoting expression.⁸¹ My discussion here will rely heavily on the explanations in (Corbett 2006) Corbett provides a wide variety of cases of semantic agreement. Often in cases in which the syntactic and semantic properties come apart there is an option to select between more than one inflection.

The British nominal 'committee' is a paradigm of semantic agreement. It is still syntactically singular, even though the fact that it denotes a group seems to make it possible to use 'committee' with verbs with plural inflection. 'Committee' does not just transform into a syntactically plural term. In some contexts the semantic agreement isn't acceptable.

*(28) These committee voted against the resolution.

If 'committee' was fully syntactically plural, we would expect it could take a plural determiner, but it cannot. Though there isn't semantic agreement between 'committee' and verbs in American English, we do see semantic agreement between 'committee'-like nouns and pronouns that must agree with them.

(29a) The boys swim team likes their lucky charms.

*(29b) The boy likes their lucky charms.

80 This is slightly more complicated as it is less clear that the infelicity of (27b) is purely grammatical. It could be argued that (27b) is a fully grammatical sentence, and that the oddness comes from the fact that the sentence is not semantically interpretable.

81 "I shall use the well-established terms **syntactic** and **semantic** agreement. [emphasis is Corbett's] In the most straightforward cases syntactic agreement ... is agreement consistent with the form of the controller (*the committee has decided*). Semantic agreement ... is agreement consistent with its meaning (*the committee have decided*). "(Corbett 2006 155)

Examples like (29a) are particularly important because they involve two different kinds of agreement. The verb 'likes,' on the one hand, agrees with the singular syntactic features of 'the team'. The pronoun 'their,' on the other hand, agrees with the plural semantic features of the denotation of 'the team'. Because you can have a single nominal that agrees semantically with one part of the sentence, and syntactically with another, we can't posit a syntactic operator that simply changes the nominal's syntactic properties. If there was an implicit syntactic pluralizer acting on 'the boy's swim team' we would expect the plural form of 'like' rather than the singular. Instead it really seems that in certain situations, at least, agreement follows the properties of the denotation rather than the syntactic properties of the expression.⁸²

The 'France'-style cases involve one of the paradigmatic cases of semantic agreement. While there is no good full explanation for how semantic agreement occurs and how to understand it at the syntax/semantics interface, there is substantial cross-linguistic evidence that it is a genuine phenomenon. For my purposes, semantic agreement is particularly important because if there is semantic agreement based on metonymic denotations, that seems to show that the truth-conditions of the sentence must involve the metonymic denotation and not the lexical denotation. If there was only evidence for syntactic agreement, we might take that to be evidence that there is a phonologically null operator in logical form responsible for metonymy. Given that the agreement is semantic, we have solid evidence for requiring a semantic theory that in some way associates the metonymic denotation with the shifted expression.

The second kind of grammatical property that shifts in some cases of metonymy is the expression's countability—the extent to which the expression can grammatically participate in

82 If the evidence given here isn't satisfying, one should look to (Corbett 2006) and the literature cited within. Much of the best evidence for semantic agreement comes from languages other than English, though I've tried to stick with English examples for my exposition.

count-noun like constructions or mass-noun like constructions.⁸³ Some nouns, such as 'lightning,' are wholly uncountable. By this it is meant that they can never take plural inflection and they can't be used with certain determiners like 'a' or 'two', though they can felicitously be used in constructions with 'all'. 'Lightning' is a paradigmatic uncountable nominal.⁸⁴

?(30a) Lightnings are scary.

?(30b) I saw a lightning.

?(30c) I saw two lightnings.

(30d) All lightning is scary.

Other nominals are wholly countable: they can felicitously take plural inflection and can be used with determiners such as 'a' or 'two' and they cannot felicitously be used with 'all'. 'Car' is a paradigm of a countable nominal.

(31a) Cars are scary.

(31b) I saw a car.

(31c) I saw two cars.

?(31d) All car is scary.

Many nominals can be felicitously used in some of these constructions but not in others. For example, 'admiration' cannot be pluralized and cannot be used with the determiner 'two', but can be used with the determiner 'a' and with 'all.'

?(32a) Admirations are nice to have.

(32b) I have an admiration for scary things.⁸⁵

83 I take this jargon and the following examples from the classic work in (Allan 1980).

84 That's not too say the sentences marked with a '?' are completely unusable. There may be cases where do accept them, though they are far less common and sound a bit odd. This, however, is evidence that like the semantic agreement of number, countability is not a purely syntactic property but also depends upon the nature of the relevant denotations.

85 The complement seems required.
?(xxi) I have an admiration.

?(32c) I have two admirations.

(32d) All admiration is scary.

We can measure a nominal's countability by seeing in which constructions it can be felicitously used.

For expressions whose denotations can be shifted via Author/Book, Animal/Food and other related forms of metonymy, the kinds of constructions in which the expression can felicitously participate depend on whether the expression has undergone shifting. For example 'chicken' can lexically denote an animal, or metonymically, it can shift to denote foodstuffs produced from the animal. When 'chicken' denotes the animal it grammatically requires a determiner, such as 'a'. When 'chicken' is being used to denote foodstuff produced from the animal, a determiner is not felicitous. In interpreting the following two sentences, let us stipulate that 'chicken' hasn't undergone shifting and hence denotes an animal.

(33a) I own a chicken.

?(33b) I own chicken.⁸⁶

In cases in which 'chicken' has undergone metonymic shifting and denotes a foodstuff, the opposite pattern holds.

(33c) I ate chicken last night.

?(33d) I ate a chicken last night.⁸⁷

86 It has been suggested that the following is acceptable, even if 'chicken' denotes the animal and not the food.

?(xxii) I own some chicken.

I find the sentence to be extremely odd. Furthermore, even if it is acceptable, that would be doing something unique about the word 'chicken'. We cannot do the same with other animal names.

?(xxiii) I own some dog.

?(xxiv) I own some cow.

?(xxv) I own some lamb.

87 While (33d) can be felicitously used, it is only in cases in which 'chicken' is denoting a specific animal, rather than denoting a mass of foodstuff made from chickens. For instance we could say:

(xxvi) I ate a whole chicken last night!

But this is a use of 'chicken' according to which it is denoting a particular animal. If 'chicken' has its metonymic denotation, no determiner is acceptable.

In cases of Animal/Food metonymy the denotational shift correlates with a change in whether or not the nominal requires a determiner.

A similar effect occurs with Author/Book metonymy. If 'Kaplan' has its lexical denotation (34a) is felicitous but (34b) is not.

(34a) Kaplan is a great philosopher.

?(34b) All Kaplan is interesting.⁸⁸

When 'Kaplan' has its metonymic denotation, it is felicitous to use no determiner or to use determiners like 'all' or 'some'. We cannot felicitously use 'a.'

(34c) Lately I've gone back to reading Kaplan.

(34d) I read some Kaplan last night.

?(34e) I read a Kaplan last night. (Where 'Kaplan' refers to Kaplan's writings)

What these examples show is that the kinds of grammatical constructions in which a nominal can participate depend upon whether or not the nominal has undergone metonymic shifting. Metonymy can involve semantic shifts, changes in the grammatical features of the metonymic expression and concomitant changes in the kinds of constructions within which the metonymic expression can be felicitously embedded. Note though, that like the case of number agreement, countability seems to partly depend upon the relevant denotation and not just upon the syntactic properties of the

88 One might suspect that Kaplan is getting "ground" in this case. Grinding is a process whereby mass uses are generated for nouns with count uses. The ground use of the noun comes to denote the stuff that made up the count use of the noun. For example, if Fluffy the dog accidentally found himself in the midst of an explosion we might describe the results as follows.

(xxvii) There is Fluffy everywhere!

One natural thought is that grinding is part of the explanation for what is happening in sentences like (34). Still, it isn't clear how that natural thought should be developed. Kaplan doesn't seem to get ground in the standard way: we aren't referring to the 'stuff' that makes up Kaplan. As a result, if grinding is involved there first has to be a shift from Kaplan the individual to a different unground entity. That intermediate entity would then be ground to generate the denotation: Kaplan's written work. But what would this intermediate entity be? Furthermore, why add the intermediate step in the first place? We can do equally well by having a single shift: one that goes directly from Kaplan the individual to Kaplan's written work. This does involve a shift from denoting a canonically count denotation to a canonically mass denotation, but that doesn't mean that grinding must be involved.

expression.

I now want to move on to argue that these grammatical shifts are productive. One might suspect that 'cow' or 'Kaplan' are just lexically ambiguous. On such a view there are two different lexical entries for each of 'Kaplan', 'France' and 'cow.' Each lexical entry has different denotations and distinct grammatical properties. What I'm calling metonymy, on such an account, is merely a standard kind of ambiguity.

The key problem with the ambiguity proposal is that, as I claim above, the shifts in grammatical properties are not tied to particular lexical items. The grammatical shifts occur for any example of Author/Book, Animal/Food, or Location/Team metonymy, regardless of which lexical items are undergoing shifting. Any country, state, county or city name that denotes a location with a sports team is immediately available to be used in metonymic shifting. Furthermore, country names can refer to many different sports teams. In the context of different sports a country name could potentially denote a wide variety of different teams: soccer, baseball, fencing, bobsled, ballroom dancing, chess, etc. In order to build all this into the lexicon we would need a great deal of ambiguity. By positing productive rules for different kinds of metonymy, however, we can avoid a great deal of needless lexical ambiguity.

Even more importantly, it is not only country *names* that can undergo metonymic shifting. Complex expressions which denote the country can also undergo metonymic shifting. The following examples show metonymic shifting can apply to complex expressions in a variety of cases.

(35) The monarchy north of the English channel are going to be a force to be reckoned with in this tournament.

(36) My hometown demonstrated excellent sportsmanship by shaking hands after the game.

(37) The new girl jumped over a pit!

(38) Lately, I've been reading a lot of that philosopher who wrote 'Demonstratives.'

Each of these shifts is allowed because the complex expression's lexical denotation⁸⁹ bears the right relation to the metonymic denotation. The grammatical properties of *complex* nominals can shift if the complex nominal undergoes metonymic shifting. Since we need to explain how complex expressions can shift, it would be that much more helpful to be able to explain shifting in terms of general rules that govern kinds of metonymic shifts rather than trying to build ambiguity into virtually every expression.⁹⁰ I have argued that some cases of metonymy involve grammatical as well as denotational shifts and that these shifts can apply to an open class of expressions: any expression that has a lexical denotation suitable for a particular kind of metonymy.

Furthermore, the productivity of these shifts—the fact that they are licensed by denotations rather than expressions—is important because it suggests that we need to be looking to the semantics for an explanation of agreement and countability in at least some of these cases.

So far I have argued that: (1) metonymy is constrained and conventional and, (2) some denotational shifts are accompanied by grammatical shifts. We can now turn to investigate several alternatives to my semantic approach and see how the alternatives cannot handle (1) and (2) as well as my approach.

2.3.3. *The Naive Pragmatic Approach*

What would a simple pragmatic account of metonymy look like? Here's a rough sketch: A person utters (10a) in a context in which Belinda is playing video games.

89 As I noted when I introduced my jargon, I'm using 'lexical denotation' in a broad sense to include the semantic value of a complex expression made by composing the lexical denotations of simpler expressions.

90 This doesn't fully rule out the possibility that metonymy is due to a kind of lexical ambiguity. I actually think that one of the most plausible alternatives to my approach is one that takes the lexicon to be fairly dynamic—to admit of many rapid modifications in virtue of metasemantic rules that modify the lexicon. In fact, I defend such an account of quotation in Chapter 1 above. Furthermore, the way I interpret Nunberg and Zaenen's appeals to lexical 'licenses' such licenses are something like what I'm calling a metasemantic convention. I do argue against this position in more detail below.

(10a) Belinda jumped.

Everyone present is aware that Belinda herself did not jump. Furthermore, everyone present is aware that having an avatar jump is a central part of the video game. If (10a) is being used to express the truth-conditions of the sentence, the utterer would be saying something patently false. By Grice's maxim of quality we can assume that the speaker is trying to make an informative claim, and given our knowledge of the situation we can infer that she is likely intending to communicate something about Belinda's avatar rather than Belinda herself. According to the view under consideration, every instance of metonymy results from a similar communicative process.

This naïve account is problematic. It fails to make room for the conventionality of metonymy or the grammatical shifts that accompany metonymy. As I have argued in section 2.3.1., metonymy is conventional. The naïve pragmatic account has no explanation for why sentences like (16a) are unacceptable, while sentences like (16b) are acceptable.

(16a) I love reading Kaplan. I've been reading lots of him lately.

(16b) I've been reading lots of Ackrill lately.

Presumably the naïve account explains (16a) by saying that it is obvious that the speaker has not been reading Kaplan the person. The participants in the conversation are aware that Kaplan's written work is salient and hence understand that the speaker intends to make a claim about Kaplan's written work rather than his person. The problem, for the naïve account, is that the very same reasoning could apply in the Ackrill case. Assume that Ackrill's translations are salient in the utterance situation. In such a situation if a speaker utters (16b) the interlocutors know that she isn't speaking of eating Ackrill as a person. Furthermore, Ackrill's translations are salient. Yet for some reason, metonymy is disallowed. The lesson here is that a naïve pragmatic approach cannot explain the conventional constraints on patterns of metonymy.

The naïve pragmatic approach also has no explanation for the changes in grammatical properties that sometimes accompany metonymy. Intuitions of grammaticality are almost universally taken to be independent of pragmatic influences, and as a result if metonymy involves grammatical effects it is likely not pragmatic. As an illustration of this point, note that though the naïve pragmatic account can help us understand grammatically deviant sentences, it cannot remove the intuition of deviance. For example, imagine that Simone wants to know whether Trevor prefers the red cat or the purple cat, if Trevor utters.

?(39) I prefers the red cat.

We can deduce that Trevor intends to communicate that he prefers the red cat. Even though we can understand and accept the content that Trevor intended to communicate (39) remains grammatically deviant. This is in contrast to the case of metonymy. In cases of metonymy we accept (23a) and (9a) with no intuition of grammatical deviance.

(23a) The sweet potato fries is getting antsy

(9a) I've been reading lots of Kaplan lately.

Even if the naïve pragmatic account could explain why putatively deviant sentences like (23a) and (9a) get assigned metonymic truth-conditions, it has no explanation for why they are not judged to be grammatically deviant.

Furthermore, whether or not you can use semantic agreement in a particular situation is clearly conventional. The British use verbs that agree semantically with 'committee', while Americans do not. This dialectal difference shows that whether or not semantic agreement is available for certain constructions must itself be marked within the grammar. Even if semantic agreement could be explained as the result of a pragmatic process like implicature there would be no explanation for the difference between British and American uses of 'France' with sports team

metonymy.

The naïve pragmatic approach can neither explain constraints on metonymy, nor explain the grammatical shifts that accompany metonymy. And for good reason. As I have argued, metonymy is constrained, conventional and relevant to agreement. There have to be some conventional rules that govern metonymy, contra the naïve pragmatist. The question that we must address is: where ought we to locate those rules. My answer is that we ought to locate them in the semantic rule system—inserted into semantic derivations via optional interpretation rules. The views I examine below all locate metonymic shifting rules elsewhere. The rest of this paper, however, will be dedicated to showing that my semantic approach is better than any of the alternative possible locations for the metonymic rules.

2.3.4. The Sophisticated Pragmatic Approach

While the naïve pragmatic approach failed to provide an adequate explanation of constraints on metonymy perhaps a more sophisticated pragmatic approach could work. Just because metonymy involves conventional patterns, it doesn't follow that metonymy cannot be pragmatic.⁹¹ Recall the views of Recanati and Sag whereby metonymic shifting functions are added to truth-conditions by pragmatic processes. On such views, metonymic shifting functions are defined outside the semantic system by virtue of the particular situation of utterance. While I think that Sag's explicit view would struggle to explain the constraints on metonymy, as it does rely on contextual salience to determine when shifting occurs, perhaps a neoSagian could accept that there are set conventions for when metonymy can occur, but claim that those are a form of pragmatic convention.

⁹¹ One traditional way of incorporating conventional content into pragmatics is through Grice's conventional implicatures: implicatures that depend upon the conventional content of particular lexical items. In the case of metonymy, however, conventional implicature won't be of much help. Grice's conventional implicatures are not *detachable* in that they arise not simply due to the *content being expressed* but also upon the presence of particular expressions. As I have argued above, in the case of metonymy, shifting seems licensed by the lexical denotation and not by the presence of a particular expression. In other words metonymic shifts are detachable, and hence are not Gricean conventional implicatures.

Some theorists might balk at the very idea of pragmatic conventions. However it does seem plausible that there are some conventions about how we communicate that are not part of the semantic system itself.⁹² Let us grant this possibility to the sophisticated pragmatic account for the sake of argument.

Beyond such concerns, however, there is still a key difference between my semantic account and a sophisticated pragmatic account. In a sense the two accounts might appear to be similar. Both posit encoded shifting functions. I posit an optional semantic interpretation rule to insert representations of the functions into derivations. The sophisticated pragmatic theorist calls them 'pragmatic conventions' and claims that they are inserted by a pragmatic process. It might even appear that aside from the words 'pragmatic' and 'optional semantic' the two views are identical. This appearance is misleading, however. The sophisticated pragmatist is arguing for an account of how truth-conditions are associated with utterance of sentences. Such an account, on my view, will necessarily involve speculating about the psycholinguistics of communication. Furthermore even if the sophisticated pragmatist account has a ready explanation for how speakers can understand metonymic utterances, she has no explanation for other linguistic tasks that involve metonymic shifts: most importantly the sophisticated pragmatic account doesn't clearly address how speakers produce utterances that involve metonymic shifts.

My semantic account, on the other hand, is not intended to fully explain any particular kind of communicative act. My account is semantic in that I am trying to describe how metonymy fits into a series of formal rules for associating logical forms with truth-conditions. I say nothing about how the theory gets mobilized in order to perform particular tasks. As I claimed in section 2.1.4., figuring out the details of mobilization is a psycholinguistic task, ill-suited to purely theoretical

⁹² Below in Chapter 3 I discuss some examples of possible pragmatic conventions.

2.3.5. The Metasemantic Approach

[illegible]

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metonymy, however, we are assigning a metonymic denotation on the basis of a previous *denotation*. Metonymic shifts are made available by whether the previous denotation is of the right kind to support a shift.

(41a) Belinda jumped over the pit with style.

(41b) The girl with the brown hair that I told you about the other day jumped over the pit with style.

The metonymic shift is just as available in the case of (41b) as it is in the case of (41a). Many different expressions that denote Belinda can undergo metonymic shifting. According to the metasemantic account in using (41b) we create a new lexical item: the expression “the girl with the brown hair that I told you about the other day” which denotes Belinda's avatar. According to a semantic account, at some stage of the derivation after the semantic values of the constituents of 'the girl...' have been composed, the resulting denotation is shifted to Belinda's avatar. How do we choose between these views?

I want to highlight two ways in which the semantic account is preferable to the metasemantic account. Firstly, the semantic account involves less computational complexity. Secondly, the semantic account allows us to justify inferences that are lost on the metasemantic account.

The metasemantic account requires that we have already assigned a semantic value to the complex expression prior to determining whether it is a candidate for metonymic shifting. Note that the expression 'the girl with the brown hair that I told you about the other day' contains the indexical 'I'. So in order to verify that the expression satisfies the condition required for applying a lexical license we need to have assigned it a value relative to a formal context. If the license does apply we would then have to introduce a new lexical item and begin a new semantic derivation. My semantic account, however, only requires that a metonymic derivation has one additional step: the application of an optional rule. The metasemantic account introduces added complexity that we can

do without.

Secondly, on the metasemantic account we would lose the semantic and syntactic structure of the complex expression when the new lexical item is created. We can test whether or not the structure is really there by looking at inferences that depend upon it.

(42a) I enjoy reading the philosopher who both works at UCLA and wrote 'Demonstratives.'

(42b) I enjoy reading the philosopher who both wrote 'Demonstratives' and works at UCLA.

It seems to me that (42b) is entailed by (42a). Such an entailment cannot be accommodated by the lexical license approach, which would treat the apparent definite descriptions in (42a) and (42b) as distinct lexical atoms. Though “the philosopher who both wrote 'Demonstratives' and works at UCLA” and “the philosopher who both works at UCLA and wrote 'Demonstratives' ” appear to have structure that makes them equivalent, on the metasemantic approach, that structure is lost when we make them into novel atomic lexical items. A semantic account could presumably show the entailment as follows (letting 'Work()' be a term denoting a metonymic shifting function that takes an author to their work):

The unsimplified truth-condition derived for (42a) is (43a):

(43a) $\lambda w. \text{Last night I read work}((1x. \text{Philosopher}(x) \ \& \ \text{UCLA}(x) \ \& \ \text{WroteDem}(x)) \text{ in } w$

Furthermore, we know that the following is true:

(43b) $(1x. \text{Philosopher}(x) \ \& \ \text{UCLA}(x) \ \& \ \text{WroteDem}(x)) \leftrightarrow (1x. \text{Philosopher}(x) \ \& \ \text{WroteDem}(x) \ \& \ \text{UCLA}(x))$

By substitution of co-referential terms we can derive (43c) from (43a).

(43c) $\lambda w. \text{Last night I read work}((1x. \text{Philosopher}(x) \ \& \ \text{WroteDem}(x) \ \& \ \text{UCLA}(x)) \text{ in } w$

These kinds of inferences require that we preserve the inner structure of the complex expression during semantic interpretation. It is only after we have simplified the complex term, late in the derivation, that the structure is lost. These inferences, however, only turn out to be valid on the semantic approach. This provides us with some evidence that the semantic structure of the lexical denotation plays an important role in the derivation of truth-conditions and hence that we should prefer the semantic approach to the metasemantic.

2.3.6. *Phonologically Null Optional Syntactic Structure*

The final approach to metonymy that I want to discuss is also the one that is most similar to my own view. Recall the way that theorists like Luisa Marti and Josef Stern sought to make use of *syntactic optionality*. They claim that certain phenomena (metaphorical meanings for Stern, implicit locations for Marti) can be explained by positing phonologically null—that is invisible and soundless—constituents in logical forms. Such an approach could be extended to account for metonymy. According to this approach, English is even more like Metonenglish than I have suggested. English actually contains operators like 'av' and 'ord', and those operators are part of the normal lexicon. These expressions are, however, aphonic. There is an interpretation of sentence (44a) that assigns it the syntactic structure (44b) though there is no phonological or orthographic realization of the 'av' constituent. The non-metonymic sentence has a syntactic structure like (44c).

(44a) Belinda jumped.

(44b) [[[av]dp [Belinda]np]np[jumped]vp]s

(44c) [[Belinda]np [jumped]vp]s

Such an approach makes use of syntactic optionality. It is simply part of the syntactic rules for our language that we can optionally insert phonologically null metonymic syntactic operators into a derivation.

When comparing my approach to the metasemantic approach the key issue was to determine whether or not complex metonymic expressions seemed to have semantic structure. When comparing my approach to the phonologically null variable approach the key question is whether or not we have reason to believe that metonymy is tied to existing syntactic structure or whether it introduces *sui generis* semantic content. The debate here is tricky. As these putative syntactic operators are not present in the phonology, we cannot observe them directly and instead we must infer their presence indirectly.⁹³

The burden, I believe, is on the proponent of phonologically null syntactic structure to show that such structures exist. There are initial reasons to be skeptical. For instance, we might think that the metonymy operators could be determiners like 'the', 'a', or 'every'. But there is reason to believe metonymy operators are not determiners. In English we normally cannot stack determiners—we cannot have multiple determiners immediately before a nominal.⁹⁴

*(45a) Some my friends are mean.

(45b) I read some Kaplan last night.

93 This approach is similar (and maybe even identical) to an ellipsis account, according to which there is a normal expression in sentences like (xxviii) which is then deleted from the phonology by a process of ellipsis.

(xxviii) Belinda's avatar jumped.

(xxix) Belinda jumped.

Such an account, though, would have to explain why ellipsis is allowed in some cases, but not in others, i.e. it would need to have an explanation for the constraints on metonymy.

94 There are exceptions, especially with 'the'. Still the point here is that these are the kinds of structural relations that need to be taken seriously when positing syntactic structure. One might also think that the 'determiner' proposal is so implausible that it ought not be considered at all. I think it's interesting for two main reasons. Firstly, the phonologically null syntactic structure, in the case of metonymy, would seem to be heading the entire phrase. Compare possessive phrases:

(xxx) Belinda's avatar jumped.

In such sentences the head seems to be 'avatar' while "Belinda's" is telling us something about which avatar is at issue. Similarly, we might think that in cases of metonymy the shifting function is the head of the sentence. The determiner would then be a natural place for it to go.

A second reason for discussing this determiner proposal, is that aside from its intrinsic plausibility, it provides a particularly graphic demonstration of how a proposal about phonologically null syntactic structure has syntactic consequences. When one makes a proposal about syntactic structure, that proposal must be in line with what we know about syntax. Being phonologically null does not change the syntactic interactions a constituent is capable of. The determiner proposal lets us see this point because we immediately see how it is inconsistent with a plausible but non-obvious claim about syntax: that we do not generally stack determiners.

(45c) I read some av Kaplan last night.

If metonymy operators were determiners, logical forms of sentences like (45b) would require stacking determiners which is disallowed in English. Perhaps, then, the shifting function has a different syntactic structure. The problem is that there are a wide variety of different proposals, each of which will have its own benefits and raise its own puzzles. It is up to a defender of the syntactic approach to develop a worked out argument presenting evidence that there is such structure. In the absence of a worked-out syntactic alternative, I see no reason to doubt the semantic approach.

One putative reason we might doubt my semantic approach pertains to the grammatical shifts that I described in section 2.3.2. But as I argued there, the kind of agreement that was relevant was semantic agreement. My argument doesn't show that there is no underlying syntactic operator, but it does show agreement is partially determined by the denotations. My view will require that at least some aspects of agreement and countability turn on properties of denotations. I recognize that one who thinks that all aspects of agreement and countability are determined prior to the assignment of truth-conditions to logical form might take this to be evidence that in some cases there is hidden syntactic structure that underwrites the differences in grammatical properties, but such an account will have a general problem with accounting for the evidence for semantic agreement.

Even in that worst-case-scenario, however, we must remember that shifts in grammatical properties do not occur in all cases of metonymy. In Player/Avatar metonymy, even if Belinda and Cynthia are controlling a single avatar together we still use verbs inflected for the plural.

(46) Belinda and Cynthia are jumping!

Given that there is no shift in agreement in such cases, they provide no extra reason to suppose that there is hidden syntactic structure. What's needed is an account of metonymy that has the flexibility to explain cases of grammatical shifts when they occur, but that doesn't over-generate and posit

grammatical shifts in every possible case. The syntactic account seems less flexible than the semantic account: if there is additional syntactic structure in every case of metonymy we would expect there to be syntactic effects in every case of metonymy. On the other hand, the semantic account seems more flexible. Part of the reason for the literature on count and mass terms, for instance, is that at times the syntactic properties of countability seem to map onto properties of denotations and at times the two seem to come apart. A semantic account of metonymy can have the flexibility to generate grammatical shifts in some cases but not in others.

2.4. Conclusion

I turned my attention to metonymy because metonymy seemed like a plausible candidate for explanation in terms of substantive optionality. Metonymy is arguably a *sui generis* semantic shift—a shift that isn't based on syntax. In the first part of this paper I aimed to show that we can accept substantive optionality in semantic theory and that at least one reason for restricting it was based on the unreasonable desire to have a semantic theory that immediately gives rise to an intuition-generating procedure. Once we have rejected that motivation we can see that optionality is to be expected and presents no challenges to systematicity. In the second section I sketched an account of metonymy that relied on substantive optionality. In this final section I discussed two interesting features of metonymy: conventional constraints and grammatical shifts. I then compared my semantic account to a naïve pragmatic account, a sophisticated pragmatic account, a metasemantic account, and an account that posits optional phonologically null syntactic structure. I have tried to make clear what substantive issues distinguish these different approaches to metonymy and to argue that in the end, my semantic approach, embracing substantive optionality, is our best option.

Chapter 3 - Underspecification, Specification, Overspecification

A great deal of recent discussion in philosophy of language has concerned the frequency of context-sensitivity. Some theorists, the minimalists, argue that the only a small number of indexicals and demonstratives are context-sensitive.¹ Others, radical contextualists, argue that virtually every lexical item is context-sensitive.² Still others, moderate contextualists, take a position in the middle.³ This emphasis on the frequency of context-sensitivity has sometimes occluded issues about what context-sensitivity means for accounts of lexical knowledge. The lexical knowledge associated with a lexical item is the knowledge that competent speakers have about that lexical item's meaning in virtue of being a competent speaker of the language.⁴ When a theorist accepts that a lexical item is context-sensitive, she accepts that a language user's lexical knowledge does not suffice to specify the lexical item's denotation in many utterance situations. If lexical knowledge does not suffice to specify a denotation in an utterance situation then non-linguistic beliefs (NLBs) and topic-neutral reasoning abilities (TNRAs) will play an essential role in specifying the lexical item's denotation in that utterance situation.

I want to highlight an under-appreciated distinction between two distinct ways in which lexical knowledge can work with both NLBs and TNRAs to specify a denotation in an utterance situation. This distinction is subtle and I will say much more to formulate it precisely below. For now I will make do with a brief gloss. According to the first way, what I call *underspecification*, a language user has limited, impoverished or schematic lexical knowledge. NLBs and TNRAs serve to supplement the impoverished lexical knowledge—filling in gaps and thickening the thin lexical

1 (Cappelen and Lepore 2004) and (Borg 2007) are notable examples.

2 For examples see (Recanati 2004, 2010), (Sperber and Wilson 1986), (Carston 2002) and the papers in (Travis 2008).

3 (Stanley 2007) contains papers that defend this position.

4 Language users have syntactic lexical knowledge and phonological lexical knowledge as well as semantic lexical knowledge. For this paper, however, I will be restricting my attention to semantic lexical knowledge. For this reason I will generally write 'lexical knowledge' though I only intend to denote semantic lexical knowledge.

knowledge. According to the second way, what I call *overspecification*, a language user has rich, detailed lexical knowledge. NLBs and TNRA's serve to select which pieces of that rich lexical knowledge are relevant in a particular utterance situation.

Theorists who accept context-sensitivity for a lexical item *l*, that is, theorists who deny that the lexical knowledge associated with *l* specifies a denotation in many utterance situations, have for the most part adopted underspecification and ignored overspecification.⁵ My goal in this paper is twofold. First, I want to clearly formulate the distinction between underspecification and overspecification. Second, I argue that if commonly used verbs are context-sensitive then we should adopt overspecification for them.

In 3.1.1. I explain lexical knowledge, NLBs and TNRA's in more detail. In 3.1.2. I explicate and formulate underspecification and overspecification. In 3.1.3. I describe a toy model of lexical meaning to help concretize the more abstract discussion in 3.1.2.. In 3.1.4. I look at three accounts of underspecification that have been prominent in the literature. In 3.2.1. I say more about the commonly used verbs that feature in my argument. In 3.2.2. I present my argument for overspecification in schematic form. In 3.2.3.-3.2.5. I defend the premises of the argument.

3.1. Specification, Underspecification, Overspecification

3.1.1. Lexical knowledge, NLBs and TNRA's

According to standard approaches to linguistics, all competent language users have a store of linguistic knowledge that contributes to explaining their linguistic abilities. Some of this linguistic knowledge is knowledge of the syntactic rules that generate phrase structures. This syntactic knowledge constitutes a language user's syntactic competence. Some of the linguistic knowledge is knowledge about what lexical items—words and morphemes—mean. Some of the linguistic

⁵ One notable exception is (Recanati 2004) which adopts a hybrid view with elements of underspecification and overspecification.

knowledge is knowledge of how we combine the denotations of simpler expressions to form the denotations of complex expressions.⁶ These latter two kinds of knowledge constitute a language user's semantic competence. The first part of semantic competence—the knowledge of what lexical items mean—can also be called 'lexical knowledge'. The second part of semantic competence—the knowledge of how to combine denotations—can be called 'compositional knowledge'.⁷

For the last 35 years, much work in semantics has centered around what is called 'compositional semantics.' Compositional semantics is the study of compositional knowledge. Semanticists have developed theories that describe how different kinds of denotations can be combined to form complex denotations for complex phrases. If compositional knowledge is constituted by knowledge of rules for combining denotations then to use compositional knowledge one must know the denotations associated with the relevant lexical items. One doctrine which follows naturally from this account of compositional knowledge is the doctrine that a language user's lexical knowledge is knowledge of rules for associating lexical items with denotations. Putting aside indexicals, this doctrine holds that lexical knowledge suffices to specify a lexical item's denotation independently of the utterance situation.⁸ Let us call this doctrine *specification* since it requires that any language user who is competent with a (non-indexical) lexical item has knowledge of the lexical

6 Different approaches to semantics will characterize this "combination" in different ways. A theorist who takes the denotations of sentences to be Russellian propositions would say that we combine individuals and properties to form propositions. A theorist who adopts a standard formal semantic theory might take names to denote individuals and predicates to denote functions from individuals to truth-values. According to such a view we combine the individual and the function using function application. I'm not presupposing any particular account of sentential denotations so I won't be explicitly discussing these issues.

7 Linguistic knowledge is tacit, not explicit. Language users do not have the ability to describe their knowledge systematically, though they behave in ways that are explained by positing the linguistic knowledge. As linguists well know, having tacit syntactic knowledge does not grant one the ability to systematically articulate a syntactic theory which describes that knowledge. Throughout this paper I will be using 'knowledge' to denote this tacit knowledge commonly invoked in linguistics, rather than the propositional knowledge more commonly discussed in philosophy.

8 Indexicals, lexical items such as 'I', 'here' and 'now', present a counter-example to this generalization. Our lexical knowledge does not suffice to fix an indexical's denotation independently of every utterance situation. Indexicals only have a denotation relative to a context determined by the utterance situation. I take indexicals to be an example of a case where what I will call 'underspecification' is relatively successful. Specificationists are generally happy with indexicals so long as the number of indexicals is fairly limited. I discuss indexicals in more detail in the following section after introducing underspecification and overspecification.

item's context invariant denotation. We can formulate specification as follows:

(Specification for a Lexical Item *I*): The lexical knowledge competent speakers associate with *I* specifies *I*'s denotation independently of utterance situations.⁹

A growing number of theorists reject specification.¹⁰ These theorists hold that lexical knowledge does not suffice to specify a context-invariant denotation for a lexical item. Specifying a denotation in an utterance situation requires cognitive states and abilities that go beyond the lexical knowledge that all competent speakers have qua competent speaker. We can call this doctrine *underdetermination*.

(Underdetermination for a Lexical Item *I*): The lexical knowledge competent speakers associate with *I* does not specify *I*'s denotation independently of most utterance situations.^{11 12}

Underdetermination raises interesting theoretical issues. For theorists who accept specification, there is no big mystery about what lexical knowledge consists in. Lexical knowledge, for specificationists, is knowledge of rules that associate lexical items with denotations. For a theorist who rejects specification characterizing lexical knowledge is trickier. Furthermore, in rejecting specification a theorist is accepting that something beyond lexical knowledge is needed to specify denotations.

9 Specification is formulated as a claim that is defined for individual lexical items. We can derivatively talk about specification for a class of lexical items such as commonly used verbs. Specification for a class of lexical items is true if for any lexical item *I* in that class, specification is true for *I*. We can also derivatively talk about specification simpliciter. Specification is true if for most lexical items *I*, specification for *I* is true. I will formulate underdetermination, underspecification and overspecification primarily in terms of a particular lexical item, but these claims will have derivative versions parallel to the derivative versions of specification.

10 Some of the theorists who reject specification include Charles Ruhl, Dan Sperber, Deirdre Wilson, Kent Bach, Francois Recanati, Robyn Carston, Stephen Neale, Peter Ludlow, and Agustin Rayo. In this paper I will be looking in particular at Ruhl, Bach, Ludlow and Rayo.

11 'Underdetermination' is used in the literature to denote two distinct claims (a) the claim that the denotation of an expression is underdetermined by the lexical knowledge associated with that expression (b) the claim that the truth-conditions of a sentence in an utterance situation are underdetermined by the semantic content assigned to that sentence. While much of the discussion in the literature pertains to (b) I am here exclusively concerned with (a).

12 'Overdetermination' has occasionally been used to denote the claim that a lexical item is ambiguous, i.e. in (Recanati 2004), though I find it is misleading in that usage. A paradigm case of overdetermination, such as causal overdetermination, is a case where we have a single effect and multiple potential causes which would each suffice to cause the effect. By analogy we might expect 'overdetermination' to require multiple collections of lexical knowledge, any of which would suffice to determine that denotation. Part of my reason for using 'overspecification' is to avoid this connotation.

NLBs and TNRA's are taken to constitute the "something beyond" that contributes to specifying denotations. How does the lexical knowledge interact with these other cognitive states and abilities in specifying denotations? In general underdeterminists have paid much more attention to describing the ways in which NLBs and TNRA's contribute to specifying denotations, and less attention to describing what lexical knowledge consists in.

One might wonder what exactly specifying a denotation amounts to. Given that specifying a denotation involves the interaction of lexical knowledge and other cognitive states, I will be assuming that specifying is a cognitive process. I leave open whether specifying is a process that occurs within the producers of utterances, the interpreters of utterances, both producers and interpreters, or even idealized interlocutors. There are many different ways one might characterize the respective contributions of producers and interpreters in communicative exchanges, and my discussion is meant to apply to theorists who have different approaches to communication. For this reason I am using 'specifying' in a theoretically neutral way. My discussion should, with minor modifications, apply to whatever account of communication a theorist ends up adopting, regardless of who (or what) does the specifying.

Characterizing lexical knowledge (and contrasting it with NLBs) is a particular challenge for any project concerned with the lexicon. There are many different conceptions of lexical meaning in the literature, and different conceptions of lexical meaning bring with them correspondingly different conceptions of lexical knowledge. Since I mean my discussion to apply to theorists who have a wide variety of different conceptions of lexical meaning, I cannot provide a single determinate account of what lexical knowledge consists in. Still everyone will accept that we have *some* specialized lexical knowledge. After all, language is difficult to learn. Even young children, who have brains optimized for language learning, still require years to develop a lexicon. For adults, learning

vocabulary can be a difficult, time-consuming task. If speaking a language required *no* specialized lexical knowledge we wouldn't need to learn very much about lexical meaning when learning a new language. Different theorists differ on what the knowledge will consist in: knowledge of necessary and sufficient conditions for applications, knowledge of sets of conditions, knowledge of prototypes, knowledge of exemplars, knowledge of theories, and so on. Still, everyone recognizes that we must have some specialized lexical knowledge.

On some views lexical knowledge is distinguished from NLBs in terms of content. For the specificationist, lexical knowledge consists in knowledge of rules for assigning denotations to lexical items. NLBs cannot have that kind of content else they would be linguistic beliefs. On other views, lexical knowledge does not have its own kind of content. Agustin Rayo's view, which I discuss below, is one such view that takes lexical knowledge to consist in a set of beliefs which needn't have a distinct kind of content from NLBs. One person's NLB might be another person's lexical knowledge. On such accounts, lexical knowledge is distinguished from NLBs by the role it plays in the specifying denotations. Roughly, lexical knowledge will be the knowledge necessary for competent use of a term. Though precisifying exactly what lexical knowledge amounts to would require an account of lexical meaning, everyone recognizes that there must be some class of privileged knowledge, though they disagree on how it is to be characterized.

TNRAs are easier to characterize. They are reasoning abilities that can apply across different cognitive domains. For instance, there are certain reasoning patterns that will be useful in solving-crimes, choosing fast-food restaurants or deciding what to watch on television. TNRAs are to be distinguished from topic-specific inference rules. Syntactic theories, for instance, posit rules for manipulating syntactic representations. These rules are topic-specific in that they are only used when

processing syntactic structures.¹³

3.1.2. *Underspecification and Overspecification*

There are two distinct ways to be an underdeterminist. In my view theorists have almost exclusively opted for one way of being an underdeterminist despite the fact that the other way is often more plausible. The widely-adopted way is *underspecification* while the often-ignored way is *overspecification*.

The primary difference between underspecification and overspecification concerns the role that they assign to lexical knowledge in the specification of denotations. Underspecificationists aim to minimize the explanatory role of lexical knowledge, while overspecificationists do not. We can characterize the differences between specificationists, underspecificationists and overspecificationists in terms of their answers to two questions.

(A) Does the lexical knowledge associated with a lexical item fail to specify that lexical item's denotation independently of utterance situations?

(B) Can we shift the burden of explaining a language user's ability to use a lexical item with a denotation in an utterance situation from lexical knowledge to NLBs and TNRA's?

Question (A) is a question about the limits of what lexical knowledge can do on its own. (B), however, is a question about how to balance lexical knowledge against NLBs and TNRA's in explaining a language user's ability to use a lexical item with a given denotation. The specificationist will answer 'no' to (A) and 'no' to (B). She will say that lexical knowledge does suffice to specify a denotation independently of utterance situations and as a result we do not need to worry about (B). The underspecificationist will answer 'yes' to (A) and 'yes' to (B). The underspecificationist believes that we can reduce the explanatory significance of lexical knowledge by increasing the explanatory

¹³ I don't mean to imply that there are no topic-specific reasoning abilities relevant to restaurants or crime-solving. Regardless of whether or not there are, I am simply saying that TNRA's are those reasoning abilities that can be applied in a variety of different domains.

significance of NLBs and TNRAs. The overspecificationist can split the difference between the previous views: answering 'yes' to (A) and 'no' to (B). The overspecificationist recognizes that NLBs and TNRAs are essential for specifying denotations, but she claims those beliefs and abilities supplement the explanatory role of lexical knowledge rather than replacing it. Note that the overspecificationist does not need to say that NLBs and TNRAs are unimportant or that it is a mistake to assign them an important role. In denying that we can shift the burden to NLBs and TNRAs, the overspecificationist is saying that all of NLBs, TNRAs and lexical knowledge have essential contributions to make to specifying a denotation.

Agustin Rayo's metaphorical description of specification and underspecification can help characterize the intuitive idea.¹⁴ Rayo claims that for the specificationist words are like sextants and using a word is like using a sextant in navigation. Not just anyone can pick up a sextant and use it successfully for navigation. You need to have substantial specialized knowledge about sextants in order to be able to use them. For the underspecificationist, words are like rocks, and using a word is like using a rock to weigh down a piece of paper. There is no special knowledge people have about rocks that allows them to use rocks to weigh down paper. Instead non-rock beliefs about the world suffice to tell an individual how a rock can be used. To extend Rayo's metaphor, we can say that for the overspecificationist a word is like a bag containing a bunch of mixed up parts from different make-your-own-sextant kits. Using a word is like constructing the appropriate sextant for the circumstances and then using it for navigation. Specialized knowledge is important for constructing a sextant from parts and for using the sextant. For the overspecificationist specialized knowledge is as important as it is for the specificationist. However, specialized knowledge won't suffice to tell you how to construct the appropriate sextant for the circumstances. Beliefs about the circumstances and

¹⁴ Rayo doesn't use the terms 'specificationist' or 'overspecificationist' though as I argue below, he is discussing those views.

the use of TNRA's will be essential for getting a working circumstance-appropriate sextant out of the bag of parts. The overspecificationist recognizes that NLBs and TNRA's are essential to the specification of denotations, while still recognizing the essential role played by specialized knowledge.

This characterization is sketchy and metaphorical and it would be nice to have more precise formulations of both underspecification and overspecification, beyond saying that the underspecificationist minimizes the explanatory role of lexical knowledge, while the overspecificationist does not. To this end it is helpful to look at other ways in which underspecificationists describe and defend their position. They say that the meanings known via lexical knowledge are 'thin',¹⁵ 'general',¹⁶ 'abstract',¹⁷ and 'schematic'.¹⁸ The reliance on NLBs and TNRA's arises because of the impoverished nature of lexical knowledge, with NLBs and TNRA's filling out the schema or helping to concretize the abstract meaning.

What moves theorists to adopt underspecification? The following paragraph recreates a potential motivation.

The specificationist thought that lexical knowledge sufficed to specify denotations. We underdeterminists do not think that is true. Instead we recognize that NLBs and TNRA's also play a role in specifying denotations. But once we have NLBs and TNRA's contributing to specifying denotations, we no longer need the kind of lexical knowledge that the specificationist believed in. The burden of explaining the specification of denotations has shifted from lexical knowledge to NLBs and TNRA's. The more explanatory work done by NLBs and TNRA's, the less there is for lexical knowledge to do.

15 (Ludlow 2006, 2007)

16 (Ruhl 1989) and (Bach 1994)

17 *Ibid.*

18 *Ibid.*

One way to respond to this motivation—and to help distinguish the two views—would be to point out a role NLBs and TNRA's might play that does not lessen the explanatory role of lexical knowledge. The role I will be focusing on can be drawn out from the way that I extended Rayo's metaphor. I claim that we associate *too much* lexical knowledge with a given lexical item to specify a denotation in many utterance situations. Various pieces of that lexical knowledge suffice to specify a denotation. But the totality of the lexical knowledge is unable to specify any denotation. On such an account the role of NLBs and TNRA's would be to select which pieces of the lexical knowledge associated with the lexical item are relevant in a particular utterance situation. Once those pieces of lexical knowledge are selected, however, they suffice to specify a denotation. We can formulate the distinction between underspecification and overspecification in terms of that particular role for NLBs and TNRA's.

(Underspecification for a Lexical Item *I*) The lexical knowledge associated with *I* does not specify *I*'s denotation in utterance situations. Many of *I*'s denotations in utterance situations are not specified by pieces of lexical knowledge associated with *I*.

(Overspecification for a Lexical Item *I*) The lexical knowledge associated with *I* does not specify *I*'s denotation in utterance situations. Many of *I*'s denotations in utterance situations are specified by pieces of the lexical knowledge associated with *I*.

If some pieces of the lexical knowledge associated with *I* suffice to specify *I*'s denotation, then the lexical knowledge associated with *I* has to contain at least enough lexical knowledge to explain the specifying. These formulations of underspecification and overspecification provide us with one way of characterizing why the overspecificationist thinks that we need to continue to have rich lexical knowledge while the underspecificationist thinks that impoverished lexical knowledge, no matter how it is divided up, will not suffice to specify *I*'s denotation in many utterance situations. For the underspecificationist NLBs and TNRA's will provide novel information essential for specifying a denotation, information that is not already present in any of the lexical knowledge associated with

the lexical item.

This characterization of overspecification is not without its faults. Perhaps there are other explanatory roles for NLBs and TNRA's that don't undermine the need for lexical knowledge. If so, the above characterization seems as though it would classify an account that gave those roles to NLBs and TNRA's as an underspecificationist account, even though in some ways it might appear to be an overspecificationist account.

Pure indexicals such as 'I' are an interesting example of this issue. The above characterization would label a standard account of indexicals as a form of underspecification. This is because there is no lexical knowledge associated with 'I' that suffices to specify 'I' s denotation in particular utterance situations. Still, indexicals like 'I' don't seem to fit with the spirit of underspecification. The lexical knowledge associated with 'I' is usually taken to be a specialized rule, a rule that can specify a denotation relative to a set of contextual parameters. So while pure indexicals like 'I' would satisfy the letter of underspecification as I've characterized it, they do not seem to cohere with the spirit of underspecification. Pure indexicals have not shifted much of the burden of explaining the specification of denotations away from lexical knowledge.^{19 20}

Indexicals show us that the logical space is more complicated than the binary distinction suggested by specification and overspecification. I suspect that there is a continuum of positions: from those where the lexical knowledge associated with a lexical item can fully specify a denotation, to those where specification is almost completely done by NLBs and TNRA's. When faced with a continuum of positions there is often something arbitrary in where we draw theoretical lines. Since I

19 Interestingly, it is this very property of pure indexicals—the fact that substantial lexical knowledge is required for their use—that has made it easy for specificationists to accept indexicals as an exception to the generalized specificationist doctrine. The fact that lexical knowledge is important for interpreting indexicals is what makes them well-behaved, and hence they are sometimes thought to exist easily in the overall specificationist picture.

20 There are other examples of context-sensitivity that might pattern with indexicals. Some accounts of gradable adjectives like 'tall' hold that these adjectives are relativized to a contextually provided degree or comparison class. As with indexicals it seems like the primary work is still being done by specialized lexical knowledge.

am defending overspecification, I have tried to err on the side of caution—characterizing overspecification in strong terms. If I can make a case for this more extreme form of overspecification, then it would clearly also hold for less extreme ways of drawing the theoretical lines. Providing a more granulated approach would involve looking at all the different ways that NLBs and TNRA's can contribute to specification, a task that would require more space than I have here. With that caveat, we will see a couple of different ways by which NLBs and TNRA's can contribute to specification when we look at actual underspecificationist views below. That way, we can get a taste for the ways in which NLBs and TNRA's might be thought to take over the burden of specifying denotations.

One might suspect that overspecification is just lexical ambiguity by another name. My response is that it depends upon how one conceives of lexical ambiguity. Standardly, there are thought to be two kinds of lexical ambiguity: homonymy and polysemy. Homonymy is lexical ambiguity that occurs when two distinct lexical items share a phonological form or orthographic form. Polysemy is lexical ambiguity that occurs when a single lexical item has multiple meanings. In practice, polysemy is distinguished from homonymy by whether the multiple meanings associated with a given phonological or orthographic form seem similar or connected. If the multiple meanings are similar or connected then they are taken to be associated with a single lexical item. If the multiple meanings have nothing to do with each other, then they are taken to be associated with different lexical items. For example, 'mouth' can be used to denote a body part and it can be used to denote the entrance to a cave. Body-mouths and cave-mouths have interesting similarities. Both are entrances. The use of 'mouth' to denote cave-mouths likely began as a metaphorical use. This metaphorical use was eventually frozen and hence became part of lexical knowledge. As a result, 'mouth' is polysemous. 'Bank' can be used to denote a financial institution or the side of a river. As

these two denotations seem to bear no interesting similarities or connections, 'bank' is homonymous. Lexicographers generally recognize this distinction in the construction of dictionaries. Homonymous orthographic forms are given distinct entries for each use. Polysemous lexical items are usually only given a single entry which then has a list of numbered definitions corresponding to the different polysemous meanings.

The lexicographer's method of describing polysemous lexical items is part of a tradition in lexical semantics of taking the meanings of a polysemous lexical item to be distinct and non-overlapping.²¹ Such models of lexical meaning are called 'sense-enumeration lexicons'. Though sense enumeration lexicons recognize polysemy, they treat the meanings of polysemous lexical items as wholly non-overlapping.²²

Polysemy in a sense-enumeration lexicon would count as overspecification provided that knowledge of each enumerated meaning can specify a denotation. Overspecification, though, does not require anything like a sense-enumeration lexicon. Overspecification in no way requires that different denotations are specified by non-overlapping pieces of lexical knowledge. There can be overlap within the lexical knowledge that specifies different denotations for a lexical item in different utterance situations. For instance, let us imagine a lexical item *l* with which we associate four pieces of lexical knowledge: *A*, *B*, *C* and *D*. *l* can denote one of four entities in utterance situations. Those four entities are: 1, 2, 3 and 4. Pieces of lexical knowledge associated with *l* can specify denotations as follows.

21 One might wonder how two meanings can overlap. On the kinds of views under consideration, meanings are not atoms. They have some kind of structure and are composed of more basic constituents. Roughly, we can say that two meanings overlap if they share a constituent. If we take meaning *A* and *B* to be clusters of properties, for instance, two meanings would overlap if there is at least one property that is in both *A* and *B*.

22 (Pustejovsky 1995) claims, for instance, that sense-enumeration lexicons are the standard model of polysemous meanings. He cites (Chomsky 1965) as positing a sense-enumeration lexicon for explaining how verbs change meaning depending upon their complements. Pustejovsky spends a chapter arguing explicitly against sense-enumeration lexicons. In the end, however, it is not obvious to me that Pustejovsky's own account avoids being a kind of complex sense-enumeration lexicon.

- (i) *A, B, C* specifies 1
- (ii) *A, C, D* specifies 2
- (iii) *A, B, D* specifies 3
- (iv) *B, C, D* specifies 4

No individual piece of knowledge is necessary or sufficient for specifying a denotation. The totality of the lexical knowledge associated with *I* does not itself specify any denotation. We need to remove one piece of lexical knowledge from the totality to specify a denotation. The role of NLBs and TNRA's would then be to select one piece of lexical knowledge to filter out.

We can therefore have overspecification without non-overlapping enumerated meanings.²³ Some theorists would still want to call *I* 'polysemous'.²⁴ Polysemy isn't always thought to require non-overlapping lexical knowledge. If so, I have no beef with understanding overspecification as polysemy. I just want to make it clear that we can accept overspecification without needing to have non-overlapping lexical knowledge specifying each potential denotation.²⁵

3.1.3. *The Conditions-Based Model of Lexical Meaning*

So far I've discussed lexical knowledge in fairly abstract terms. Theorists in the literature I'm

23 This is not to say that we couldn't construct a sense-enumeration lexicon based on the example. We could imagine a lexicon that represents *I*'s meanings as four discrete pieces of knowledge: (i) through (iv). My point is that we do not need to do so. The lexical knowledge associated with *I* can be the single set {*A, B, C, D*}. NLBs and TNRA's would be responsible for removing one element from the set in order to specify a denotation.

24 I'm thinking in particular of computational linguists such as Pustejovsky, Briscoe, Copestake, Lascarides and others, who have worked on generative approaches to lexical meanings. Such theorists have tended to adopt models of word meaning that aim to explain polysemy in terms of generative procedures applied to lexical meanings.

25 Importantly, standard arguments given against lexical ambiguity don't seem to apply to this more sophisticated account. For instance, one classic argument against ambiguity is the claim that it requires massive reduplication of information in the lexicon, since we fail to factor-out the common part of the meaning of polysemous terms. Given that the relevant lexical knowledge overlaps, however, we do not need any such reduplication of lexical knowledge. Similarly, theorists argue that ambiguity places too much stress on limited cognitive resources. While the kind of view sketched above does place more requirements on memory than an underspecification view (which is in line with what language acquisition actually requires) given overlapping lexical knowledge and lack of reduplication these requirements may not be unrealistic. Finally many theorists claim that ambiguity accounts fail to recognize similarities between lexical items. This is a trickier issue, but I want to note that there is nothing in overspecification that rules out general rules that act upon a variety of lexical items in similar ways. The overspecificationist claims that these rules need to be part of lexical knowledge, but she presumably has resources to answer the objection.

engaging with are not always explicit about what lexical meaning or lexical knowledge consist in. There is a wide range of different potential approaches to lexical meaning consistent with both underspecification and overspecification. For that reason I have formulated overspecification and underspecification in abstract, theory-neutral terms. Still, the abstract nature of the debate can make it hard to get a handle on the issues. In this section I will sketch a toy model of lexical meaning and lexical knowledge. I am describing this model for purely expository purposes. I will therefore not be particularly concerned with the metaphysics underlying the model or its empirical adequacy. I don't want to commit myself to this model or say that any of the theorists I'm discussing are committed to it. I am presenting it purely as an expository aid: as a concrete example of how we might formulate underspecification and overspecification in the context of an explicit account of lexical knowledge. Underspecification does not itself depend upon this model and we will see versions of underspecification that characterize the thinness of underspecified lexical meanings in other ways.

In our toy model of lexical meaning, the constituents of lexical meanings are *conditions*. An atomic condition is a property that an entity can satisfy. Here are some examples: *being crumbly*, *being extravagant*, *watching TV at 8PM Sunday*, *being a ceiling fan*, *being admirable*. We can form more complex conditions by making a set containing conditions as members. An entity satisfies the complex condition if it satisfies all of the member conditions. Here are some examples of complex conditions: {*being crumbly*, *being a ceiling fan*, *being admirable*}, {*watching TV at 8 PM*, *being admirable*}, {*being extravagant*, *being a ceiling fan*}.

We can also characterize what lexical knowledge would look like given a conditions-based model of lexical meaning. Since lexical meanings are sets of conditions, presumably lexical knowledge would be knowledge of the conditions that are members of the set. A specificationist would say that lexical knowledge suffices to specify a denotation because it is knowledge of

conditions that are satisfied by (and only by) the lexical item's denotation.

We can also characterize underspecification given a condition-based model of lexical meaning. One way that lexical knowledge can be thin or schematic is if it is knowledge of conditions that are either too few in number or too general to be able to specify the lexical item's denotations in most utterance situations. Imagine that an underspecificationist took the lexical meaning of 'coffee' to be the following complex condition: {*being brown*, *being liquid*, *being drinkable*}. Most coffee will satisfy all three conditions in this set. However, these conditions will also be satisfied by many other things: tea, prune juice, root bear, etc. Knowledge of the member conditions is not specific enough to specify the denotation of 'coffee' in most utterance situations. One way to “thicken” the lexical knowledge associated with 'coffee' would be to use NLBs and TNRA's to add further conditions to the ones known via lexical knowledge. The members of the resulting set of conditions would only be satisfied by what counts as coffee in that utterance situation. Imagine that the utterance situation for a token of 'coffee' is a very cold day with a speaker who is clearly interested only in warm drinks. The interpreter's NLBs and TNRA's might add *being hot* to the previously given set of conditions. Thus the underspecificationist is shifting some of the work of explaining a language user's ability to use lexical items from lexical knowledge to NLBs and TNRA's. Lexical knowledge cannot contribute all of the conditions necessary for specifying a denotation. Instead, we need NLBs and TNRA's to contribute conditions as well.²⁶

26 One might object that on this model underspecified lexical items are no different than general lexical items such as 'thing'. There are two responses that could be made.

One is to accept the similarity. Ludlow, as I mention below, uses 'thing-a-ma-jigger' as an example of a lexical item with a thin meaning. The difference between 'thing' and an underspecified lexical item is that 'thing' is used with its general denotation while for the underspecified lexical item must be supplemented in utterance situations. The underspecificationist then owes us an explanation for why 'thing' is used generally, while underspecified lexical items are not. While I won't try to provide such an explanation on her behalf, such an explanation could plausibly be given in terms of facts about language use.

The second response would be to accept that there is a genuine problem, but claim that it is really a limitation of the conditions-based model of lexical meaning. Bach, for instance, discusses the completion of incomplete meanings. The conditions-based model cannot obviously accommodate this, since even the most general condition is still in a sense complete. Again, I think that a more sophisticated account of lexical meaning could

We can also see what overspecification might look like given the condition-based model. For the underspecificationist, lexical knowledge, for a particular lexical item, consists in knowledge of a set of conditions such that there are more things that satisfy every member of the set than are ever denoted by the lexical item. For the overspecificationist the lexical knowledge is knowledge of *too many* conditions such that there is virtually nothing that could satisfy all of them. For the underspecificationist, lexical knowledge requires supplementation in order to specify a denotation in an utterance situation. For the overspecificationist, some pieces of our lexical knowledge needs to be selected in order to specify a denotation in an utterance situation.

For example, take the lexical item 'newspaper.' 'Newspaper' can denote different entities in different utterance situations. 'Newspaper' can denote a physical object, the information contained within the physical newspaper, or the company that publishes the newspaper. The following three sentences are examples of these uses.

(1d) Shawn ripped up the newspaper.

(1e) The newspaper was fascinating this morning.

(1f) The newspaper went out of business.

(1d) exemplifies a physical-object-use, (1e) exemplifies an information-structure-use and (1f) exemplifies a publishing-business-use. The overspecificationist could say that the meaning of 'newspaper' is the following complex condition: {*presenting news to people, being made out of paper, being an information structure, being a publishing company*}. No entity satisfies all the members of this set. However, the different potential denotations do satisfy members of subsets of the complex condition. For instance, knowledge of the first two conditions, *presenting news to people* and *being made out of paper*, could specify the physical-object denotation. Knowledge of the

plausibly accommodate incomplete meanings, but to formulate such an account here, goes far beyond my aim. Remember, I'm just using the conditions-based model as a tool for explicating the view, not as a fully worked out account of lexical meaning.

first and third conditions, *presenting news to people* and *being an information structure*, could specify the information-structure denotation. Knowledge of the first and fourth conditions, *presenting news to people* and *being a publishing company*, could specify the publishing-business denotation.²⁷ The role of NLBs and TNRA's, for the overspecificationist, is to select what linguistic knowledge is relevant in the utterance situation. In a sense, for the overspecificationist, a competent speaker already has all of the lexical knowledge that explains her ability to use the lexical item with a given denotation. The problem is that she has too much lexical knowledge associated with a particular lexical item for that knowledge to suffice for specifying a denotation in many utterance situations.²⁸

Now that we have seen a model of lexical meaning and concretized some of the abstract discussion that came before, we can turn to investigating several versions of underspecification that have been proposed in the literature.

3.1.4. *Varieties of Underspecification*

I want to look more closely at accounts of underspecification provided by: (1) Ruhl and Bach (2) Ludlow (3) Rayo

3.1.4.1. *Ruhl and Bach on Abstract Meanings*²⁹

27 Obviously the conditions I've provided don't come close to actually specifying the denotation. Remember, I'm explaining the structure of overspecification. I'm not trying to provide a complete analysis of the meaning of 'newspaper'.

28 One might think that the overspecificationist has a problem analogous to the one mentioned in ft. 26. What distinguishes an overspecified expression from a self-contradictory expression like 'the round square'? The responses I describe on behalf of the underspecificationist are equally available to the overspecificationist. The overspecificationist also has a third potential response. She could claim that self-contradictory lexical items have a single inconsistent atomic condition while for overspecified lexical items the apparent contradiction only arises if we consider multiple atomic conditions. For instance, the lexical knowledge of the self contradictory 'the round square' could be knowledge of the single-membered complex condition: {*being round and being square*}, while the lexical knowledge for a similar, but overspecified lexical item would be knowledge of the dual-membered complex condition: {*being round, being square*}. Thus NLBs and TNRA's could make the overspecified lexical item consistent by selecting a single atomic constituent. There is no way to select members of that set {*being round and being square*} that would provide us with a consistent set of conditions.

29 Above I characterize underspecification in terms of *lexical knowledge*. Ruhl and Bach do not describe their views in these terms. They talk of abstract and schematic lexical meanings. Still, we can reformulate their views in terms of lexical knowledge. We can say that lexical knowledge is schematic if it is knowledge of schematic meanings. This

Charles Ruhl was an influential early underspecificationist. In his 1989 monograph 'On Monosemy,' Ruhl argues against so-called 'meaning maximalists' who believe that a great deal of lexical knowledge is associated with each lexical item. Ruhl argues for the methodological principle that we should assume that lexical items are not polysemous and that competent speakers have limited lexical knowledge.³⁰ In order to specify a denotation we engage in a process that Ruhl labels 'modulation.' The expression 'modulation' is used because modulation is a process that modifies and changes the meaning known via lexical knowledge in order to generate an output that can specify a denotation in an utterance situation. NLBs and TNRA's are used to modulate the contents of lexical knowledge.

"I claim that a considerable part of alleged lexical meaning is actually supplied by other means; words are highly abstract in inherent meaning, often too much so for conscious understanding. It follows that all use of language is heavily modulated. The more diversely useful a language, the more it would have to be heavily modulated by other means to differing situations." (Ruhl 1989 86)

Here Ruhl explicitly adopts underspecification and not mere underdetermination. Lexical items, for Ruhl, are not just context-sensitive. Lexical meanings (what Ruhl calls 'inherent meaning') are 'highly abstract.' A large part of what the specificationist would take to be lexical knowledge is not, for Ruhl, lexical knowledge.³¹ That missing lexical knowledge is replaced by modulation processes which modify lexical meanings in ways determined by NLBs about the utterance situation

difficulty arises from a genuine divergence in the literature I am engaging with. Some theorists, such as Rayo, primarily describe their views in terms of lexical knowledge, while others such as Bach describe their views in terms of lexical meaning. When possible I try and put the point in terms of knowledge, but for the sake of accuracy I will sometimes use 'lexical meaning'

30 Ruhl's argument is primarily prosecuted by looking at case studies of particular verbs and trying to argue that there are general patterns that underlie the apparent diversity of uses. Ruhl then claims that though the lexical meaning of these verbs are abstract and that pragmatic rules that can be used to determine a denotation relative to an utterance situation. Ruhl's book is filled with massive amounts of data. While I find the attempt to find underlying patterns fascinating, as I argue later in the paper, I suspect that pragmatic rules will not suffice to explain the specification of denotations if lexical meanings are as abstract as Ruhl would have it. My concern here is more with articulating Ruhl's position, then describing the arguments for it.

31 "I am working closer to the lexical bone, claiming that meaning almost universally ceded to be semantic should be considered pragmatic." (Ruhl 1989 ix)

(“heavily modulated by other means to differing situations”). Knowledge of the highly abstract lexical meaning never specifies a denotation in an utterance situation. Only lexical knowledge and modulation together are capable of specifying a denotation.

Ruhl's ideas have entered into the more recent debate through the work of Kent Bach. Bach is an influential defender of underspecification who has relied explicitly on Ruhl's work. In “Conversational Implicature” Bach follows Ruhl in defending an underspecification account for verbs like 'get' and 'take'.³² Bach describes Ruhl in terms that suggest underspecification. However, the evidence that Bach relies on is evidence only for underdetermination.

“[Ruhl] suggests that with many commonly used, multi-purpose words, like the verbs *get*, *hit*, *put*, and *take* and the prepositions *at*, *in*, *on*, *to*, and *with*, linguistic meaning is ‘highly abstract [i.e., schematic [[insert is Bach's]]] and remote from practical usefulness’ (p. 7), so that when we hear any of the above words in a particular linguistic environment and conversational context, we import extralinguistic information into our understanding of the utterance. Compare the occurrences of *put* and *on* in (1) and (2), for example.

(1) Al put the beer on the table

(2) Al put the burden on the lawyer.

We invoke extralinguistic knowledge, about beer and tables and about burdens and lawyers, to interpret (1) and (2) in the way we do. It is not a semantic fact that one is not likely to mean with (2), for example, that Al physically placed something on someone.” (Bach 1994)

Bach notes Ruhl's suggestion that lexical meanings are highly abstract or schematic. Bach is claiming that the lexical knowledge associated with 'put' does not include the beliefs about beer, tables, burdens and lawyers that seem to be playing a role in the specification of a denotation for 'put' relative to situations where Bach's (1) and (2) have been uttered. Let us grant that 'put' has different denotations relative to situations where Bach's (1) is uttered and situations where Bach's (2) is uttered. Let us grant that NLBs about beer, tables, burdens and lawyers are relevant to the specification of these denotations. The fact that “[w]e invoke extralinguistic knowledge, about beer

32 “The illustrations of implicature in sections 2 and 3 required completion of utterances of semantically underdeterminate sentences or expansion of sentence-nonliteral utterances. It appears that similar phenomena can occur at the lexical and at the phrasal level. We will focus on the lexical case, which has been investigated in depth by Ruhl (1989).” (Bach 1994)

and tables...” to interpret his examples does not demonstrate underspecification for 'put' or 'on'. Overspecification for 'put' and 'on' also requires the invocation of NLBs. The role of the non-linguistic “knowledge” (I would say belief) could be to help determine which pieces of lexical knowledge associated with 'put' and 'on' are relevant for specifying a denotation in that utterance situation. Bach claims that NLBs are relevant to specifying denotations, but that claim is compatible with both underspecification and overspecification, and hence provides no direct evidence for taking lexical meanings to be abstract or schematic.³³

Bach never provides a model of lexical meaning. This makes it hard to understand how he would cash out 'lexical knowledge'. Ruhl does say more about what lexical meanings are. However, Ruhl thinks that the constituents of lexical meanings are so abstract as to be nearly impossible to describe or conceptualize.³⁴ As a result, it is rather hard to discuss them.

Bach says more about how NLBs and TNRA's contribute to specifying denotations. He describes two processes: completion and expansion. Completion occurs when a lexical meaning is

33 To be fair to Bach, he does recognize the possibility of *some* overspecification, which he identifies with ambiguity. “What is required here may be called *local completion*. Also, even if words like *get* and *with* are not, as Ruhl suggests, really monosemous, they could still be semantically underdeterminate with respect to each of their senses. In that case once a sense is selected, a more specific construal of the word is needed before a determinate proposition is reached. In any event, it seems that we should include local completion, along with disambiguation and reference assignment, among the pragmatic processes that enter into the determination of the explicit content of an utterance.” (Bach 1994)

Still his argument for underspecification primarily is just an argument for underdetermination, so if we provide an explanation of underdetermination in terms of overspecification, we would need further evidence for positing local completions. Bach suggests that one strong argument for avoiding ambiguity is that there are often generalizations that hold across lexical items. That is to say, many lexical items have both a 'concrete' and 'abstract' sense, and it would be redundant to build these all independently into the lexicon. I agree with Bach that lexical redundancy is problematic, which is the reason I provide a distinct account of metonymy in Chapter 2 above, but I doubt these considerations apply equally to commonly used verbs. In the case of commonly used verbs there is far less redundancy among which uses particular verbs have, and hence less reason to believe that different uses of different commonly used verbs are generated by the same function. Secondly, Bach seems to be assuming an account of ambiguity that requires full encoding of discrete senses. If we have a more sophisticated overspecification account, redundancy will be less of a problem.

34 As Ruhl writes:

“I am arguing that we cannot discover the sense(s) of a word without fully gauging its applications. Dictionary definitions, especially of common words, highlight a few applications, which implicitly deny a unified sense, and thus underestimate the full range of applications. This typically, even inexorably, happens because stereotypical applications suggest discrete senses, and because the unified sense is too abstract, inexpressible, and practically (i.e., consciously) useless.” (Ruhl 1989 173)

missing a constituent required for specifying a denotation. Completion takes this kind of lexical meaning as an input and completes it by contributing a constituent. Expansion takes a lexical meaning that is already complete as an input. Expansion then outputs a meaning that has had further constituents added. Both of these processes are, according to Bach, Gricean in nature. A speaker utters a sentence that contains a lexical item with an incomplete (or unexpanded) lexical meaning. In uttering that sentence the speaker intends to communicate a complex meaning that results from composing the denotation specified by the completed (or expanded) lexical meaning. The listener recognizes the speaker's intention. In virtue of recognizing the speaker's intention she takes the speaker to have both said and communicated the complex meaning that results from composing the denotation specified by the completed (or expanded) lexical meaning. The listener reconstructs the speaker's intention in a manner analogous to how listeners understand Gricean implicatures. The listener uses NLBs and TNRA's to figure out what completions and/or expansions the speaker intended.

“... implicature can be a matter of either filling in or fleshing out what is said. ... I agree with Grice's critics that neither is a case of implicature, although both involve basically the same sort of pragmatic process as in implicature proper...” (Bach 1994)

The difference between implicature and implicature is subtle. According to Bach, in the case of standard implicature, a speaker says one thing and thereby communicates what she has said. She then also communicates *further* content that is implicated by the content of what is said. In the case of implicature, the speaker does not communicate the initial content. What she says is not communicated. What she says has to undergo completion (or expansion) before it can form a communicated content. In both cases, implicature and implicature, similar TNRA's are used to determine what the speaker intended to communicate. In implicature the speaker communicates implicatures in virtue of communicating an initial content. In implicature, however, the speaker

communicates implicatures despite not having communicated an initial content.³⁵

For Bach, many lexical meanings are schematic or abstract. He claims we use a “Gricean” process to supplement lexical meanings.³⁶ Knowledge of the supplemented meanings then specifies a denotation. As there is no specific model of lexical meaning in play it still isn't obvious what an 'abstract' lexical meaning is.

3.1.4.2. Ludlow's Common Coins

In “The Myth of Human Language” and “Contextualism on the Cheap” Peter Ludlow argues against the claim that we have a great deal of lexical knowledge. Ludlow believes, like Bach, that much of what has been taken to be lexical knowledge is in fact contributed situationally by NLBs and TNRA's. For Ludlow, we are wrong to think that lexical items have fixed meanings. Any fixed lexical meaning, for Ludlow, is thin. Lexical items regularly change their meanings to suit the need of a conversation. He calls his account 'the dynamic lexicon' because of these constant lexical changes.

Accepting a dynamic lexicon does not by itself entail either underspecification or overspecification. We can accept overspecification and hold that lexical meanings are regularly tweaked based on conversational needs. We can also imagine meanings that are thickened in ways that depend on conversational needs. Still, Ludlow is clearly an underspecificationist.

“It seems more reasonable to suppose that the broad class of phenomena that we call “linguistic” or think of as having to do with “language” are supported by a combination of narrow mechanisms of the mind/brain (what Chomsky calls the FLN, for “faculty of language narrowly construed”) and at the same time an entirely different set of abilities that are underwritten by world knowledge and various coordination strategies that we deploy.”(Ludlow 2006 388)

35 “Implicature is to be distinguished from Grice's (1967a) conversational *implicature*. In implicature one says and communicates one thing and thereby communicates something else in addition. Implicature, however, is a matter of saying something but communicating something else instead, something closely related to what is said.” (Bach 1994)

36 Bach claims the process is Gricean, but I don't want to enter into the debate over whether the process is correctly characterized as Gricean.

Ludlow goes on to argue that our TNRA's do most of the work in constructing meanings for uttered lexical items. He is particularly interested in coordination strategies, as he holds that language users are regularly trying to coordinate their uses of lexical items on the basis of situational needs. Ludlow believes that language users negotiate and coordinate, both implicitly and explicitly, over the course of conversations (and longer term interactions) to modify lexical meanings. Specifying a denotation requires coordinating with other speakers in order to flesh out the thin lexical knowledge and specify a denotation.

“Common coins are thin. Linguistic common coins, whether in circulation frequently or rarely, are “thin.” By that I mean that the shared part of the lexicon consists of just hints and clues (like one finds in dictionary entries) that may help us to deploy cognitive resources to flesh out the word meanings, and the way we flesh them out will vary according to contexts and social settings. A classic illustration would be the dummy terms like ‘whatchamacallit’ and ‘thingamajigger’, which are reissued often but typically with different denotations each time they are reissued.” (Ludlow 2006 391)

It is not Ludlow's appeal to coordination strategies that makes him an underspecificationist. Specifying denotations based on coordination of language users are compatible with overspecification. Ludlow is an underspecificationist because he claims that most lexical items have 'thin' meanings that need to be fleshed out. Even though Ludlow makes a nod to overspecification,³⁷ he thinks that typically lexical items are thin and need to be fleshed out.

Other than saying that lexical knowledge consists in hints and clues, Ludlow does not say much about what lexical knowledge is or how we flesh it out.³⁸ The lexical knowledge associated

³⁷ Ludlow writes:

“The headline idea is that the common coin view of language is badly mistaken and that discourse participants routinely mint new linguistic items and also that what common coins there are are typically “thin”—in the sense that their meanings are underdetermined and fleshed out on a case-by-case basis. Likewise in some instances we come into conversations with fleshed out word meanings that need to be thinned out for purposes of the conversational context.” (Ludlow 2007 115)

Note that Ludlow emphasizes that lexical items are typically thin and it is only in some situations that overspecification might occur. He later gives examples of 'clipping' and 'trimming' words: situations where speakers come to a conversation with incompatible definitions of words like 'torture', and have to pick out a shared content in order to converse productively.

³⁸ Ludlow describes the mechanisms whereby we coordinate meanings, but not what exactly happens to the meaning.

with common coins is extremely limited. Fleshing out lexical knowledge amounts to adding new information on the basis of NLBs and TNRA's.³⁹

3.1.4.4. Rayo's Grab Bags

A sophisticated form of underspecification is defended by Agustin Rayo in "A Plea for Semantic Localism". He claims that the lexical knowledge associated with a lexical item is just a "grab bag" of different mental entities that are related to the lexical item. This lexical knowledge might include images, instructions, memories, minor factoids and personal associations.

"The grab bag Model

With each expression of the basic lexicon, the subject associates a 'grab bag' of mental items: memories, mental images, pieces of encyclopedic information, pieces of anecdotal information, mental maps, and so forth. With the expression 'blue', for example, a subject might associate two or three particular shades of blue, the information that a paradigmatic instance of 'blue' is the sky on a clear day, a memory of a blue sweater, and so forth. Different speakers might associate different grab bags with the same lexical item.

A grab bag will typically not be enough to determine a range of application or the relevant lexical item independently of the subject's general-purpose abilities. But, by exercising sensitivity to context and common sense, the right kind of subject in the right kind of context might be in a position to use the grab bag to come to a sensible decision about what to treat as the expression's range of application for the purposes at hand." (Rayo 2011 2)

According to Rayo's account, lexical knowledge (which he calls 'the semantic information associated with a lexical item') is not a distinctive kind of knowledge. What for some people might be NLBs (anecdotal associations and encyclopedia entries) might be part of some language user's grab bags. Rayo's account is clearly an underspecificationist account: even though in rare cases a member of the grab bag might suffice to determine a denotation, for the most part the grab bag will

"This is also a good example of a case where fleshing out the meaning of the term is up to us and our communicative partners. So, even when we are deploying a common coin term (like 'athlete', for example) the extension of the term (i.e. the set of all athletes) within a given context may be up for grabs and may require some form of coordination strategy – in the sports talk radio case the coordination took the form of a debate where discourse participants argued their respective cases." (Ludlow 2007 118)

39 Below we will see Agustin Rayo's version of underspecification, which explicitly describes lexical meanings as mere hints. Given Ludlow's use of similarly terminology, we could potentially interpret him as presupposing a model of lexical meaning analogous to Rayo's account.

fail to do so.⁴⁰ Rayo repeatedly makes clear his intention of replacing lexical knowledge with NLBs and TNRAs. What makes Rayo an underspecificationist is notably not his grab-bag model of lexical meaning. Instead, Rayo is an underspecificationist because he attempts to minimize role played by lexical knowledge. One could in principle adopt a grab-bag overspecification, but it seems like Rayo would be unhappy with such a view.

“Later in the paper I will discuss some advantages of embracing the Grab Bag Model instead of the Specialized-Knowledge Model, but one advantage is immediate. On the Specialized-Knowledge Model, a huge amount of specialized semantic information must be somehow stored in a subject’s cognitive system before she will count as mastering the language. For the subject must know semantic rules corresponding to every basic expression in the lexicon, and each semantic rule determines the full range of application of a given lexical item across possible worlds, relative to a large range of contexts of utterance. In contrast, the Grab Bag Model is relatively frugal when it comes to specialized semantic information. The subject must associate a set of mental items with each basic expression of the lexicon. But nothing more is required as far as the lexicon is concerned. The rest of the work is done by the subject’s grasp of grammar, and by her general-purpose abilities” (Rayo 2011 4)

How does Rayo think that denotations are specified? We engage in what he labels 'the hermeneutic procedure'. Rayo adopts a dynamic model of meaning where each conversation is associated with a context set. A context-set is a set of possible worlds that could be actual, as far as the conversation is concerned. The point of an assertion is to update the context-set. The context-set is updated by ruling out worlds that were previously in the context-set. Using the hermeneutic procedure a hearer determines how a speaker intended to update the context set by uttering a sentence. Given our NLBs together with our syntactic knowledge and knowledge of the relevant lexical grab bags, we select a range of potential denotations salient in the utterance situation. We then use our TNRAs to select the member of that range which best fits the utterance situation. After we have specified denotations for all of the lexical items, we compose them to arrive at an update for the context-set.⁴¹

40 A grab bag model of lexical meaning does not necessarily have to be underspecificationist. As I discuss below, we could potentially adopt an overspecificationist grab bag model: one where the grab bag is filled with a tremendous amount of lexical knowledge and different sub-sets of the grab bag are capable of specifying denotations. However Rayo is explicit (as I describe below) in wanting to limit the role of lexical knowledge.

41 Rayo provides an example of the hermeneutic procedure:

Rayo's hermeneutic procedure is interestingly different from the other proposals we have seen so far. For both Bach and Ludlow denotations were specified by supplementing lexical knowledge with further NLBs. For Rayo, lexical knowledge is even more minimal. The lexical knowledge associated with a lexical item merely provides us with hints about what salient entities could be potential denotations for that lexical item. Most of the pieces of information in the grab bag may have little to do with the lexical item's denotation. An anecdote associated with a lexical item may be completely irrelevant to specifying that lexical item's denotation for many utterance situations. For Rayo, then, not only is lexical knowledge minimal, but much of the knowledge associated with a lexical item will be irrelevant to determining the lexical item's denotation in many utterance situations. The items in the grab bag may bear only a very loose connection with the eventual denotation—they merely need to help the denotation achieve salience in the utterance situation.

Rayo is also admirably clear about the motivations for his account. One motivation is the defense of semantic localism. The semantic globalist (the opposite of the localist) believes that the denotation of a lexical item relative to an utterance situation can contain entities that are relevant to the utterance situation and entities that are not relevant to the utterance situation. Take a predicate p . For the globalist, any entity is included in the denotation of p in that utterance situation or is not included in the denotation of p in that utterance situation. Furthermore, there is no indeterminacy,

“When your companion asserts ‘The party is at the blue house’ it is a bit as if she handed you a grab bag containing a sample of some particular shade of paradigmatic blue. You know that your companion is using the color sample to send you a message. You also know that the issue under discussion is the location of the party, and that your companion is being fully cooperative. So a good guess is that she is trying to use the color sample to indicate the location of the party.

There are two salient possibilities: (i) that the party is at the house to the left, and (ii) that the party is at the house to the right. So you try to determine whether one of these possibilities is rendered salient by the color sample. In Case 1, the house to the left is gray and the house to the right is blueish gray. Neither of the houses is very close in color to your sample, but the blueish gray house is a significantly better fit than the gray house, and this is enough to render the relevant possibility salient. So you conclude that the party is at the blueish gray house.” (Rayo 2011 3-4)

for the globalist, in whether p applies to any particular entity in a given utterance situation. The semantic localist believes that the denotation of a lexical item in an utterance situation is only defined for the entities that are relevant to that utterance situation. Once again, take the predicate p . The localist believes that we can only say whether entities relevant to the utterance situation are included in p 's denotation or not included in p 's denotation. For entities that are not relevant to the utterance situation, there is no fact of the matter whether or not they are in p 's denotation in that utterance situation.

Localism doesn't obviously entail underspecification. One could adopt an overspecificationist localism.⁴² Rayo's primary motivation for underspecification is the explicit desire to minimize the amount of specialized lexical knowledge that speakers must have and replace that lexical knowledge with appeals to NLBs and TNRA's.

“It is certainly true that one can't master a language unless one has *some* specialized knowledge: one needs information about the language's grammar, and about how particular lexical items are used. But I have argued that the role of specialized knowledge is much more limited than one might think. When it comes to the usage of particular lexical items, the lion's share of the work is done by sensitivity to context and common sense. Mastering a language is more like knowing how to use a rock to keep things from being blown away by the wind than like knowing how to use a sextant to establish one's latitude at sea.” (Rayo 2011 33)

3.2. Overspecification For Commonly Used Verbs

3.2.1. *Commonly Used Verbs*

I now want to move on to my argument for overspecification. The argument focuses on what I call 'commonly used verbs'. These are verbs like 'have,' 'make,' 'do,' 'use,' 'get,' and 'open,' that occur with high frequency in normal English speech and writing. Commonly used verbs are often taken to be context-sensitive.⁴³ For example, there are lots of very different kinds of events that can

⁴² Overspecificationist localism is the view that a proper constituent of the lexical meaning of a lexical item will specify a denotation relative to an utterance situation, though that denotation would only be defined for entities relevant to the utterance situation. The overspecificationist localist could adopt a similar hermeneutic procedure to Rayo's.

⁴³ Some examples are (Bach 1994), (Pustejovsky 1995), (Cappelen and Lepore 2004) and (Carston and Wilson 2007).

be denoted by 'have'.

(2a) Henry had a publishing deal.

(2b) Henry had two children.

(2c) Henry had diabetes.

(2d) Henry had a boat.

(2e) Henry had a nasty temper.

(2f) Henry had a good meal.

(2g) Henry had a good time.

(2h) Henry had a good cry.

What it is to have a publishing deal is very different from what it is to have a boat or a chronic illness. In each case the relation between the haver and the havee can be spelled out in very different ways. One reason that these verbs are often taken to be context-sensitive is that it is difficult to articulate a clear context-invariant meaning for such verbs. If we don't know what nominal is associated with a use of the verb it is especially hard to articulate what the verb means.

(3a) What did Juliette have?

(3b) Juliette's got something.

If commonly used verbs are context-sensitive then 'have' and 'got' have different denotations relative to different utterances of (3a) and (3b).

3.2.2. The Argument in Schematic Form

I am going to be focusing on the verb 'open'. Let's start by looking at a variety of uses of 'open'.

(4a) Carleton opened the store.

(4b) Carleton opened the door.

(4c) Carleton opened the box.

(4d) Carleton opened the present.

(4e) Carleton opened the game with a quick goal.

(4f) Carleton opened up the game with a Grand Slam in the 7th.

(4g) Carleton opened up to Clifford.

As with 'have' it seems like different kinds of events are being denoted by different uses of (4a-g) in normal utterance situations. In (4a) the opening involves either making a business ready for customers or starting a new business. In (4b) the opening is a characteristic physical action. (4c) describes a different kind of physical action. (4e) describes an action that occurs at the very beginning of a hockey or soccer game, while (4f) describes a situation in which one team has obtained a substantial advantage that will be extremely difficult to overcome. (4g) is used to describe one person's honest relaying of feelings to another.

What about the following sentences?

(5a) Carleton opened the television.

(5b) Carleton opened the lights.

Many English speakers find (5a) and (5b) extremely deviant and perhaps even uninterpretable. Others assume that (5a) and (5b) can only be used by repairmen removing components from a television or lighting apparatus. Some well-educated English speakers have even told me in personal communication, "It just seems logically wrong to think of opening a television" and "I can't help it, but those sentences make me angry."

For a small segment of English speakers, including myself, (5a) and (5b) are completely acceptable, normal sentences. They mean the same as (6a) and (6b) respectively.

(6a) Carleton turned on the television.

(6b) Carleton turned on the lights.

Anglophones from Montreal, Quebec, even those that speak no French, regularly use sentences such as (5a) and (5b). My parents are from Montreal, and I picked it up from them. I suspect that this usage arises out of interaction between Montreal English, and French. In Quebecois French one can say:

(7a) Carleton a ouvri la television!

(7b) Carleton a ouvri la lumiere!

(7a) and (7b) are literally translated as (5a) and (5b).

What we have on display is a systematic difference in usage between speakers of Montreal English (ME) and speakers of Other Varieties of English (OVE).⁴⁴ In order to make it easier to talk about these differences, let us engage in a little fiction. Let us assume that 'open' as used by ME speakers is really spelled with a silent 'M' and 'E' on the end. That is, we can write the Montreal 'open' as 'openME'. Similarly, the standard English 'open' is spelled 'openOVE'. I claim that there is a semantic difference between 'openME' and 'openOVE'. I also claim that recognizing this semantic difference compels us to adopt overspecification for 'open'. My argument will be as follows:

P1. There is a semantic difference between 'openME' and 'openOVE'.

P2. If there is a semantic difference between 'openME' and 'openOVE' then the lexical knowledge associated with 'openME' includes knowledge which specifies a denotation that includes light-turning-ons and knowledge that specifies a denotation that includes TV-turning-ons.

P3. If the lexical knowledge associated with 'openME' includes knowledge which specifies a denotation that includes light-turning-ons and knowledge that specifies a denotation that includes TV-turning-ons then we should adopt overspecification for 'openME' and 'openOVE'.

C. We should adopt overspecification for 'openME' and 'openOVE'.

⁴⁴ I don't mean to make any substantive assumptions about the nature of dialects. I'm not trying to say that OVE is a theoretically interesting kind. I'm simply using the expression 'OVE' as shorthand to make it easier to discuss the case.

Let us begin with the first premise.⁴⁵

3.2.3. P1. There is a semantic difference between 'openME' and 'openOVE'.

My argument for P1 will consist in an argument by exclusion. I will present what I take to be the three most plausible candidates for a non-semantic difference between 'openME' and 'openOVE', and claim that none of them suffice to explain the difference.

3.2.3.1. The Standard Account of Pragmatics

A standard account of pragmatics holds that pragmatic processes are processes that take semantic content and NLBs as inputs.⁴⁶ These processes make use of TNRA's to output communicated content. Some cognitive capacities involve the application of domain specific rules. Syntactic competence, for example, is often taken to have special rules that act upon syntactic representations. Pragmatic processes, on the standard account, involve the application of TNRA's to mental representations from a variety of different domains. Pragmatic processes, on the standard account, are not language-specific.

On the standard account of pragmatics, there are three potential sources of non-linguistic input that go into pragmatic processes. The first source of non-linguistic input is constituted by TNRA's. The second source of non-linguistic input is constituted by NLBs about the utterance situation. The third source of non-linguistic input is constituted by NLBs that are not about the

⁴⁵ The reason for putting the argument in terms of *differences* in dialect is that by attending to both 'openME' and 'openOVE' we can see that there need be no difference in NLBs that undergirds the difference in use of 'openME'. I'm trying to find a way to distinguish the lexical knowledge and the NLBs that are relevant to explaining linguistic abilities. If we only look at one lexical item it can be hard to determine where to draw the line between lexical knowledge and NLBs. By attending to two similar though slightly different lexical items such as 'openOVE' and 'openME' we can get a better grasp on what has to be lexical knowledge. I argue that since OVE and ME speakers needn't differ in NLBs any difference in linguistic abilities will have to be due to differences in linguistic (and specifically lexical) knowledge.

⁴⁶ A pragmatic process is a cognitive process that takes semantic content as an input along with NLBs and outputs communicated content that goes beyond semantic content. This expression is commonly used in the literature, though it is not always obvious whether pragmatic processes occur in the speaker, the interpreter or in an idealized reconstruction of communication. I will be bracketing these issues as they are complex and not of central importance for my project.

utterance situation. Pragmatic processes proceed by applying the TNRA's on the basis of the latter two groups of beliefs together with the relevant linguistic knowledge.

If the difference between ME and OVE speakers is to be explained in terms of standard pragmatic processes then there has to be a difference between ME and OVE speakers in terms of their TNRA's, their NLB's about the utterance situation or their NLB's that are not about the utterance situation. We don't want to say that ME and OVE speakers have different TNRA's. The dialect you speak does not affect your general reasoning capacities. So explaining the difference between ME and OVE speakers in terms of the standard account of pragmatics requires that ME and OVE speakers have different NLB's. These beliefs must either pertain to the utterance situation or not pertain to the utterance situation.

We can describe two utterance situations, *s1* and *s2*, so that *s1* is identical to *s2* in every way except for its speaker. The speaker in *s1* is Carleton, a speaker of ME. The speaker in *s2* is Carleton* a person identical to Carleton in every way other than the fact that Carleton* speaks OVE. Carleton can use 'open' to denote TV-turning-ons in *s1* while Carleton* cannot use 'open' to denote TV-turning-ons in *s2*.⁴⁷ Given this description of *s1* and *s2*, we have a contrast between uses of 'open' in situations where the relevant speakers do not have any different beliefs about the utterance situation.⁴⁸ Since ME and OVE speakers do not seem to differ in terms of TNRA's or NLB's about the utterance situation, the only possible source for a pragmatic explanation of the difference between ME and OVE uses of 'open' is a difference in NLB's that are not about the utterance

47 I use 'TV-turning-ons' as shorthand for denoting events in which TVs are turned on. Similarly, light-turning-ons are events where lights are turned on, and so on.

48 One might object that Carleton believes he speaks ME in the utterance situation while Carleton* believes that he speaks OVE in the utterance situation. This isn't obvious. If, for example, we imagine that Carleton's world is one in which every speaker speaks ME and Carleton*'s world is one in which every speaker speaks OVE they might not have any beliefs, explicit or implicit about what languages they are speaking in the utterance situation. Or perhaps Carleton and Carleton* share a strange neurological disorder that prevents them from having explicit beliefs which dialect they are using. Surely even in such bizarre circumstances there would still be a difference in how both speakers can use 'open.'

situation.

One might suspect that ME speakers and OVE speakers have different beliefs about openings. Perhaps ME speakers believe that turning-ons can be openings while OVE speakers believe that turning-ons cannot be openings. It is not plausible, however to suppose that ME speakers and OVE speakers have inconsistent beliefs. After all, if they have inconsistent beliefs then one of the beliefs has to be false. But which one? There doesn't appear to be any independent fact of the matter about whether turning-ons are openings.

Perhaps instead of positing inconsistent beliefs, we should claim that Carleton or Carleton* has a belief that the other lacks. Perhaps Carleton, the ME speaker, has a belief that licenses his use of 'open,' to denote TV-turning-ons while Carleton*, the OVE speaker, lacks this belief. There are several problems with this proposal.

A speaker can switch between dialects and languages at will. Imagine a speaker who is a member of two linguistic communities. She is a member of both the community of ME speakers and the community of OVE speakers. She might change her use of 'open' depending upon with whom she is communicating. If the ability to use 'open' to denote TV-turning-ons is explained in terms of whether she has a given belief, then it seems like she would be gaining or losing beliefs when she switches dialects. Changing dialects should not require any modification in her epistemic state.⁴⁹

One might respond that the beliefs that explain the difference between 'openME' and 'openOVE' are linguistic beliefs. In a sense, I agree with this. Given that I believe that 'openME' and 'openOVE' are semantically different, I believe that ME speakers and OVE speakers will differ in their lexical knowledge pertaining to 'open'. It will follow that competent ME speakers will differ in

⁴⁹ One might say that the speaker is not actually gaining or losing beliefs, but instead is acting as if she is gaining or losing beliefs. I don't see any motivation for this view. If these are genuine beliefs, what could be the justification for not-believing in something sometimes when speaking in one language and believing in it while speaking other languages.

their linguistic knowledge from competent OVE speakers. The objector might reply that the difference is a difference in *linguistic* knowledge, though it isn't a difference in *lexical* knowledge. Perhaps the ME speaker knows that ME speakers use 'open' to refer to TV-turning-ons while the OVE speaker knows that OVE speakers don't use 'open' to refer to *TV-turning-ons*.⁵⁰ Below I consider the possibility that there is a pragmatically grounded difference between ME speakers and OVE speakers grounded in different conditions for appropriate use of 'open' or lexical metadata associated with 'open'. First, I want to consider a different kind of pragmatic explanation.

3.2.3.2. *Pragmatic Conventions*

In the previous section I looked at the standard account of pragmatics according to which pragmatic processes involve applying TNRA's on the basis of both linguistic knowledge and NLBs in order to determine what is communicated in an utterance situation. This account of pragmatics is likely untenable. There seem to be examples of pragmatic processes that are driven by domain-specific pragmatic rules. That is to say, there are pragmatic processes that cannot be explained purely in terms of TNRA's applied to linguistic knowledge and NLBs. For example, on many accounts of semantics, semantics involves associating truth-conditions with sentences. On such accounts any communicated content that is not part of a sentence's truth-conditions will be the result of pragmatic processes. There are arguably domain-specific conventions that govern how we extract communicated information that is not part of the uttered sentence's truth-conditions.⁵¹

A putative pragmatic convention appears in certain dialects of English as they are spoken in India. This convention is normally used in various Indian languages and presumably got imported

50 I suspect that any such beliefs would be part of lexical knowledge but at this point I assume for the sake of argument that they need not be part of lexical knowledge.

51 If one thinks that emphasis can be semantic, so much the better for me. Recall that I, in the end, want to reject the claim that pragmatic conventions can explain the difference between ME and OVE uses of 'open'. I am here trying to make the best possible case for pragmatic conventions to explain why some thinkers might be drawn to them. If one is not convinced that we can make a case for pragmatic conventions, then so much the better for my argument.

into English. According to this convention, the repetition of an expression is used to suggest emphasis. In OVE this can be done with some adverbs:

(8) Simon was very very very very happy.

But in Indian English we can use other expressions to achieve the same effect:

(9) Have you checked the power power power?

This convention has apparently caused a fair amount of difficulty for technical support companies who have outsourced work to India. Most North Americans react with affront when asked (9) when calling for computer technical support. The Indian support officer simply wanted to emphasize the importance of checking the power.⁵²

The repetition has an effect on what is communicated by this sentence, though it arguably has no effect on the sentence's literal content. The repetition serves to emphasize something though this emphasis does not change the content of the question itself. (9) Has the same content as (10).

(10) Have you checked the power?

There appears to be a domain-specific pragmatic convention in some dialects of Indian English that says that repetition marks emphasis. This convention applies to utterances and gives rise to differences in what is communicated.⁵³ This rule seems to be a convention that is not determined by TNRA's based on linguistic and non-linguistic knowledge. We could imagine a competing convention that says that repetition *deemphasizes* a word. TNRA's have no reason to choose emphasis over deemphasis. The fact that repetition, in these Indian dialects of English, is always

52 (Abley 2008 57) The information comes from Sarah Power, a language and accent coach at a Microsoft facility in Bangalore.

53 Some concerns about this example, both pro and con: The 'pragmatic' difference under discussion seems to be driven (at least partially) by syntactic differences in Indian English and North American English. One might think that if there are syntactic differences, that suggests that what's going on isn't essentially pragmatic. Though conversely, one might think that on the other hand if what's going on is that syntactic differences have pragmatic effects but no semantic effects, all the more reason to believe in domain specific pragmatic rules.

associated with emphasis must be due to convention.⁵⁴ This convention might therefore be taken to be a domain-specific pragmatic rule.

Another example of a putative pragmatic convention is what is sometimes called 'narrowing'.⁵⁵ When uttering sentences involving certain nominals we often leave out a quantitative measure and via a pragmatic process use the bare nominal to communicate an implicit 'a lot of'.⁵⁶

(11a) Gus has money.

(11b) Gus has courage.

(11c) Gus has looks.

These three sentences are normally used to communicate:

(12a) Gus has lots of money.

(12b) Gus has lots of courage.

(12c) Gus has really good looks.

There is no a priori reason why we should always use this pragmatic process to communicate 'a lot of' rather than 'very few of'. If as (Carston and Wilson 2007) suggests, we arrive at the communicated content using TNRA's applied to linguistic knowledge and NLBs, we should be able to communicate 'very few of' when it is more relevant to the context.

(13) A: Shawn is so poor! He's living in a guesthouse and barely making the rent. I heard he's about to go bankrupt again!

B: I know. Shawn has money.

The process that communicates 'a lot' when we utter a bare nominal must be driven by a

54 An alternative that I won't be considering here is that rather than a convention, there is an innate topic-specific pragmatic rule. While such a view would give a different metaphysics for the rule in question, it agrees that the rule must be domain-specific and isn't reducible to TNRA's. Note also that if topic-specific pragmatic rules are innate, it is harder to appeal to them to explain differences in the OVE and ME uses of 'open'.

55 (Recanati 2004) and (Carston and Wilson 2007) discuss these cases.

56 As with the previous example, I want to emphasize that I am trying to discuss cases that appear to me to be plausible candidates for pragmatic convention. If one objects that in this case there is a better non-pragmatic explanation for communicated content or that pragmatic processes couldn't be responsible for communicating 'a lot of', so much the better for me.

domain-specific rule that goes beyond TNRA's that use linguistic knowledge and NLBs.

A theorist trying to resist my argument could claim that the difference between uses of 'open' in ME and OVE are due to there being different pragmatic conventions associated with 'open' in ME and OVE. While this claim might pose a problem for my argument for overspecification, this claim is not available for the underspecificationist. Recall her answer to question (B) back in section 3.1.2.. The underspecificationist wants to shift the work of explaining linguistic abilities away from specialized linguistic knowledge. The underspecificationist wants the bulk of the explanation of the specification of denotations to involve TNRA's and NLBs. Positing pragmatic conventions might allow us to avoid positing specialized lexical knowledge, but it still involves positing specialized *linguistic* knowledge of the kind that the underspecificationist wanted to avoid. Calling this knowledge 'pragmatic' doesn't obviate the fact that it is specific knowledge about the range of application of a lexical item that must be learned by all competent language users. Therefore, it isn't open to underspecificationists to reject P1 on the grounds that the difference between ME and OVE uses of 'open' is due to ME and OVE associating different pragmatic conventions with 'open.'

Furthermore, even if the pragmatic conventions response were open to the underspecificationist, the response still has a crucial problem. The putative 'pragmatic conventions' that influence the use of commonly used verbs differ fundamentally from the other cases of pragmatic conventions described above. Even if we accept the examples of pragmatic conventions described above this difference will give us reason to doubt that the putative pragmatic conventions that would influence the use of commonly used verbs are genuine pragmatic conventions. The emphasis convention is a single convention that can be applied to an utterance of virtually any lexical item. The narrowing convention similarly can be used with utterances including a wide variety of bare nominals. The putative pragmatic conventions that are supposed to influence the use of

commonly used verbs would influence the use of a single lexical item.⁵⁷ Furthermore, the putative pragmatic convention that would influence the use of 'open' would only be relevant in a very limited number of situations. As a result the putative pragmatic convention that would influence the use of 'open' is less plausibly a genuine pragmatic convention than the emphasis convention or the narrowing convention. Part of the reason for taking those latter conventions to be pragmatic is that despite involving domain-specific rules, those conventions apply to utterances of sentences that include a wide variety of lexical items. If the putative pragmatic conventions that would influence 'open' are specific to 'open' it is more plausible to consider them part of the lexical knowledge associated with 'open'. Even if there are pragmatic conventions, pragmatic conventions seem like a poor choice to explain minor differences in the use of particular lexical items.

3.2.3.3. Appropriateness Conditions/Lexical Metadata

The final possibility I want to explore is that ME and OVE speakers differ in their metalinguistic beliefs. According to this account, ME and OVE speakers represent the meaning of 'open' to themselves differently, but that difference is not constitutive of the known lexical meaning. Though ME and OVE speakers have the same lexical knowledge, they differ in their metalinguistic knowledge. That way of representing the lexical meaning plays a role in her interpretation of sentences including that lexical item. One way to make sense of this account, would be to claim that along with a lexical item's lexical meaning, competent speakers must also know under which conditions the lexical item's use is appropriate. Distinct lexical items might have identical lexical meanings though they might be appropriate under different conditions.

One example might be the lexical items: 'dead', and 'deceased'. Arguably, these lexical items

⁵⁷ Perhaps it could be said that there is a single convention that influences the use of a small class of lexical items. For instance, perhaps the putative pragmatic convention that would allow 'open' to denote TV-turning-ons would also allow 'close' to denote TV-turning-offs. Still, such a pragmatic convention would at best govern a very small class of closely related lexical items.

are identical in lexical meaning, though they have very different uses. If lexical knowledge only specifies a denotation then knowledge of the conditions under which 'dead' or 'deceased' are appropriate goes beyond lexical knowledge.

Not all of the relevant ways of representing lexical meaning might be correctly characterized as being about appropriateness conditions. Perhaps facts about the appropriate distribution of a lexical item might be what is sometimes called 'lexical metadata'. Lexical metadata is knowledge about the use of a lexical item that isn't part of the lexical item's lexical meaning.⁵⁸ I'm going to present two arguments that no such metalinguistic account correctly characterizes the difference between speakers of ME and OVE. Before looking at these two arguments, I want to note the dialectical point I raised in relation to pragmatic conventions also holds here. While appropriateness conditions and lexical metadata might be ways of avoiding my argument, they are not available to the underspecificationist. Positing a rich store of lexical metadata might not amount to positing specialized knowledge of lexical meanings, but it still amounts to positing specialized linguistic knowledge. The lexical metadata response fails to honour the underspecificationist answer to question (B) in 3.1.2. The underspecificationist wants to shift the explanation of linguistic abilities away from specialized linguistic knowledge and towards TNRA's and NLB's. Still, though the lexical metadata response may not be available to the underspecificationist, it seems to me to be a major way of blocking my argument. I will therefore argue against the lexical metadata account in some detail.

Argument 1: Comprehension

If the use of 'openOVE' to denote TV-turning-ons is ruled out by lexical metadata or appropriateness conditions we would expect that (5a) should be fully comprehensible to OVE

58 The term 'lexical metadata' comes from jargon concerning computer databases where engineers distinguish between the data stored at a location in the database and the metadata that tells us something about the data that is stored there.

speakers. Lexical knowledge associated with 'openOVE' specifies a denotation which includes TV-turning-ons, though OVE speakers would also know that the use of 'openOVE' to denote TV-turning-ons is not normally allowed. OVE speakers would be capable of understanding (5a) though they would judge (5a) to be inappropriate. I claim, as an empirical fact, that this is not always true. Many English speakers are not capable of understanding (5a) without explicit instruction. As reported above, speakers have responded to (5a) with attitudes ranging from blank incomprehension, to the feeling that there is something 'logically' wrong with (5a). This attitude can remain even after the dialectal and cross-linguistic variation has been explained. Since these individuals are not able to understand utterances of sentences like (5a) without explicit instruction, it doesn't seem like the lexical knowledge they associate with 'open' can specify a denotation that includes TV-turning-ons⁵⁹

I'm not denying that some OVE speakers might be able to reason their way to the correct interpretation of sentences like (5a) in an utterance situation. While an inability to understand a sentence (in the absence of any linguistic flaw in the sentence) strongly suggests that a language user lacks lexical knowledge, being able to understand does not by itself entail that a language user has lexical knowledge. Language users are regularly able to understand sentences that we take to be ill-formed in many ways. Even syntactically ill-formed sentences can be understood given adequate background information.

Imagine a group of people is waiting for their friend Juliette to return from the store. Someone enters the room and utters (14).

(14) Return store from, Juliette?

In this utterance situation, many language users could reason their way to the intended message.

⁵⁹ A brief anecdote: the first time my wife met my parents, she was politely asked to close the television at the end of a movie. She got up nervously and started looking for hidden shutters or a secret door that she could close. Given the relevance of turning off the TV in the context and the fact that the situation was relatively "high stakes" we might expect that if the lexical meaning she associated with open specified a denotation that included television-turning-offs she would have been able to arrive at the correct interpretation.

They can understand that the new entrant to the room intended to ask “Has Juliette returned from the store?” Just because (14) can be understood, however, it doesn't follow that the semantic content of (14) is the same as the semantic content of “Has Juliette returned from the store?” If a given sentence of a language *L* is not comprehensible to a competent speaker of *L*, then we have evidence that the sentence contains some linguistic flaw. If the sentence is syntactically well formed then the flaw is likely semantic.⁶⁰

OVE speakers are regularly incapable of understanding (5a). They are not able to access the semantic value associated with (5a) without explicit guidance. For such OVE speakers, the lexical knowledge associated with 'open' cannot specify a denotation that includes TV-turning-ons or light-turning-ons.

The phenomenology of these cases provides supplementary evidence for my claim that the lexical knowledge associated with 'openOVE' cannot specify a denotation that includes TV-turning-ons and light-turning-ons. Though language users might be able to reason their way to an interpretation of a syntactically ill-formed sentence, the sentence itself remains marked as deviant. Grasping the intended message does not remove the deviance. This continued deviance is evidence that whatever a language user does in order to grasp the sentence's message goes beyond the application of linguistic knowledge. The reaction of OVE speakers to (5a) involves a similar intuition of deviance. Once the ME use of 'open' has been explained to an OVE speaker she will be able to understand the message that an ME speaker intends to convey with (5a), though for the OVE speaker (5a) is still marked as deviant. The continued deviance of (5a) strongly suggests that the lexical knowledge associated with 'openME' is not able to specify a denotation that includes TV-

⁶⁰ There are situations in which a well-formed sentence might be difficult to comprehend. If, for instance, it conveys a message that seems irrelevant or false in the circumstances, a competent language user might not be able to understand it. If the sentence is well-formed but extremely long it might prove too taxing for a listener's memory. In the case I'm focusing on, none of these flaws are present. The TV-turning-on reading is sensible and relevant given the utterance situation. (5a) is well formed and succinct.

turning-ons. The difference between OVE and ME uses of 'open' must therefore be explained by differences in lexical knowledge and not by appropriateness conditions or metadata associated with the a lexical meaning.⁶¹

Argument 2: Second Language Learning

Learning the proper uses of commonly used verbs presents one of the greatest challenges for second language learners. Even highly fluent second language speakers often struggle with the proper use of commonly used verbs.⁶² In order to be a fully competent user of commonly used verbs, one must be aware of when they apply and when they do not apply. A speaker is not judged to be fully competent with a commonly used verb unless she has learned when that verb must be used or when a different commonly used verb must be used. As this knowledge is necessary for competence with commonly used verbs, I claim it should be included in the lexical knowledge associated with commonly used verbs.

I began section 3.2.3.3. by suggesting (on behalf of my opponents) that appropriateness conditions and lexical metadata might be metalinguistic knowledge and not lexical knowledge. Some of our intuitions about meaning seem to speak against this suggestion. Consider slurs that differ radically in their emotive force such as 'Yid' and 'Kike.' The latter has a far stronger, far more

61 When appropriateness conditions determine whether a lexical item is appropriate, language users are able to flout the appropriateness conditions with comedic or dramatic effect. Socially awkward characters are often portrayed as regularly using lexical items that are inappropriate for the utterance situation. Both the comedic contrast and the portrayal of social awkwardness require that observers be capable of recognizing an inappropriate use as inappropriate. Observers must be aware of the inappropriateness in order to find the use funny.

In the case of 'open' we fail to see any flouting of appropriateness conditions. The lack of flouting is tied to the comprehensibility issue. If flouting the appropriateness conditions leads to a sentence that is uninterpretable for many speakers there will be no comedic effect. The lack of flouting in cases like 'open' provide us with a contrast between the kind of deviance that accompanies failures of appropriateness conditions and the kind of deviance that accompanies failures of comprehensibility.

Furthermore, it is extremely rare for a sentence to violate appropriateness conditions relative to every utterance situation. Generally we can come up with an utterance situation in which the sentence could be appropriately used. However, here is no situation where OVE speakers are able to accept the ME interpretation of (5a). This strongly suggests that OVE speakers find the sentence (5a) linguistically deviant and not merely inappropriate.

62 See for instance (Altenberg and Grainger 2001)

negative effect. Whether this effect is truth-conditional in nature, or whether it is due to Fregean colouring, or conventional implicature, this emotive force is part of what we would intuitively say is the meaning of the slur. A speaker who failed to recognize the substantial differences in tone between 'yid' and 'kike' would without a doubt not be competent with the slurs.⁶³

We can recast a similar argument with commonly used verbs though the effect is not quite as dramatic. Imagine a speaker who talks about separating her dinner with a knife and tells her boss she thinks the company can separate costs. She also talks about cutting her laundry before doing it and talks about being sad that her brother and his wife have recently cut. Such a speaker, I take it, will not be judged a fully competent user of 'cut' and 'separate'. She lacks crucial knowledge about the meaning of 'cut' and 'separate'. Given dictionary entries for 'cut' and 'separate' she would not be able to reliably assign the correct lexical item to the correct entry. Knowledge of when to use a given commonly used verb therefore ought to be considered part of lexical knowledge.

3.2.3.4. Summary of the Case for a Semantic Difference

I have argued that the difference between 'openME' and 'openOVE' is a semantic difference. First I argued that the difference between 'openME' and 'openOVE' is part of the linguistic knowledge associated with the expressions—that it doesn't result from differences in NLBs and TNRA's. I then looked at plausible examples of different kinds of non-semantic linguistic knowledge and argued that the knowledge underlying the difference between 'openME' and 'openOVE' would be fundamentally different from the less controversial examples of pragmatic conventions. This, of course, does not amount to a demonstration that the difference is semantic. The knowledge at issue could still be knowledge of pragmatic conventions of a novel kind. Still, I think there is ample reason

⁶³ There has been a great deal of literature recently devoted to explaining the emotive effects of slur words. See for instance (Potts 2007), (Hom 2008) and (Richard 2008). My concern here isn't with promoting any particular theory of slur words, just to point out that knowledge of the emotive force seems essential to competence (even if it isn't truth-conditionally relevant).

to deny that the knowledge at issue is pragmatic. Instead of worrying directly about the labels 'semantic' and 'pragmatic' we can ask what kind of theoretical work the relevant knowledge has to perform.

Firstly, the knowledge is relevant to specifying the denotation of a lexical item. Since specifying denotations for a lexical item is part of specifying truth-conditions for sentences which contain that lexical item, these conventions are relevant to specifying the truth-conditions of sentences. As the discussion in 3.2.3.2. showed, the knowledge does not concern general conventions about how we use a variety of lexical items. Instead, the relevant knowledge is specific to a single lexical item (or a small set of lexical items). It is specialized knowledge tied specifically to a lexical item. As the discussion in 3.2.3.3. showed, this specialized knowledge is often necessary for comprehending sentences involving the lexical item and is required in order to be a competent user of the expression. Finally, though the relevance of the knowledge might depend upon an utterance situation, the knowledge itself doesn't seem to change with the utterance situation. In every TV-turning-on situation, the same knowledge is relevant.

Could we call this knowledge, knowledge of a pragmatic convention? I suppose so. But in doing so we would owe an explanation of the semantics/pragmatics distinction that would back up this classification. The lexical knowledge that distinguishes 'openME' and 'openOVE' seems to hit all the marks of semantic lexical knowledge, and aside from the fact that it is not relevant in every utterance situation, it does not follow the patterns of paradigmatic pragmatic knowledge. So while I don't take myself to have shown categorically that the difference between 'openME' and 'openOVE' must be semantic, I think that absent an account of the semantics/pragmatics distinction that could justify a different classification, we have solid reason to consider the relevant specialized knowledge to be part of the semantic knowledge that all competent speakers have about the lexical items they

master.⁶⁴

We can move on to the second premise.

*3.2.4. P2. If there is a semantic difference between 'openME' and 'openOVE' then the lexical knowledge associated with 'openME' includes knowledge which specifies a denotation that includes light-turning-ons and knowledge that specifies a denotation that includes TV-turning-ons.*⁶⁵

3.2.4.1. Arguing for Premise 2

According to the antecedent of P2, there is a semantic difference between 'openME' and 'openOVE'. The (semantic) lexical knowledge associated with 'openME' differs from the (semantic) lexical knowledge associated with 'openOVE'. In the previous section I argued that we cannot accept any of the putative non-semantic differences between ME and OVE uses of 'open'. Therefore, there are two possibilities: (i) The lexical knowledge associated with 'openME' includes all the lexical knowledge associated with 'openOVE' and then also includes further knowledge that contributes to specifying a denotation that includes TV-turning-ons. (ii) The lexical knowledge associated with 'openOVE' includes all of the lexical knowledge associated with 'openME' and also includes further knowledge that functions to rule out the specification of denotations including TV-turning-ons.

The underspecificationist cannot accept either of these possibilities. (i), I argue below, amounts to an admission of overspecification. If the lexical knowledge associated with 'openME' includes knowledge that contributes to specifying a denotation including TV-turning-ons then it seems P2 would follow. Interestingly, the underspecificationist also cannot accept (ii). According to (ii) the lexical knowledge associated with 'openOVE' includes knowledge that rules out the specification of a denotation that only includes events of a particular kind—TV-turning-ons. But there are lots of other events that cannot be included in the denotation of 'openOVE'. If the lexical

⁶⁴ One might worry that there is still something else going on. In particular there might appear to be an important connection between the various different meanings of 'open' that is getting ignored by my approach. I respond to this objection in more detail below in section 3.2.4.2..

⁶⁵ In this section I will only be discussing TV-turning-ons and not light-turning-ons, though an exactly parallel argument is available for light-turning-ons.

knowledge associated with 'open' must include specific pieces of knowledge that rule events of a particular kind from being in a specified denotation, a great deal of lexical knowledge will have to be associated with 'open'. ME speakers *cannot* use 'open' to denote just any electrical-device-turning on.

?(15a) Carleton opened the space-heater.

?(15b) Carleton opened the coffee-maker.

?(15c) Carleton opened the car.

?(15d) Carleton opened the video camera.

On the other hand, there are some further uses that do seem acceptable.

(15e) Carleton opened the radio.

(15f) Carleton opened the computer.⁶⁶

Other examples seem borderline, such as:

(15g) Carleton opened his phone. (Not a flip-phone)

If we needed lexical knowledge to rule out each case like (15a-d) language users would have to associate even more lexical knowledge with 'open' than in case (i). Such an account should be highly unappealing to the underspecificationist. By their own criterion, we would want to adopt an account where we have positive lexical knowledge—lexical knowledge that specifies the denotation—rather than an account where we have massive negative lexical knowledge—lexical knowledge which rules out all potential denotations.

One might object that what I've shown falls short of overspecification. I've shown that there must be some lexical knowledge associated with 'openME' that allows 'openME' to specify a denotation including TV-turning-ons. I haven't shown that this lexical knowledge (in combination

⁶⁶ (15f) seems better for some OVE speakers, even if we aren't talking explicitly of laptops. Perhaps the use of 'open' that denotes laptop-openings somehow was transferred to traditional computers. Another possibility is that talk of opening computer programs was extended to the machine as a whole.

with other lexical knowledge associated with 'openME') if selected from the totality of lexical knowledge associated with 'open', *suffices* to specify a denotation. But overspecification requires the sufficiency claim. So I haven't fully demonstrated overspecification.

My response to this objection is that while I haven't demonstrated that the lexical knowledge associated with 'openME' suffices to determine a denotation, I have shown that (a) the lexical knowledge associated with 'open' must play a role in specifying a denotation including 'open' and (b) that there is no further role for NLBs and TNRA's beyond selecting the relevant knowledge in a particular utterance situation. Unless we have reason to think that NLBs and TNRA's are playing some further role in the specification of denotations, we have no reason to accept underspecification.

Why think there is no role for NLBs and TNRA's beyond the selection of relevant lexical knowledge? Again, we must see that the differences among the potential denotations of 'openME' and 'openOVE' are fairly limited. The potential denotations of 'openME' include TV-turning-ons, light-turning-ons and perhaps several other turning-ons that are not denoted by 'openOVE.' That said, for the most part 'openME' and 'openOVE' have the same range of potential denotations. There is no generalization we can use to predict whether or not 'open' will denote a turning-on for a particular kind of object, even for electrical devices. Instead we only have a small number of arbitrarily chosen devices whose turning-ons can be denoted by 'openME'.

This suggests that once we have selected the lexical knowledge that allows the specification of a denotation including TV-turning-ons there is no further role for NLBs and TNRA's. If there was a further role for NLBs and TNRA's in extending or narrowing denotations, we would expect to see more flexibility in this particular use. It isn't enough that the new lexical knowledge makes salient TV-turning-ons. It has to be able to make TV-turning-ons salient without making space-heater-turning-ons salient and without making car-engine-turning-ons salient. If we left it up to TNRA's to

determine what counted as similar to a hint-like piece of lexical knowledge (as Rayo and Ludlow might have it) we would have no grounds for ruling out car-engine-turnings-ons, spaceheater-turnings-ons, and so on. It really seems like it is the specialized knowledge that is doing the real work of specifying how 'open' can be used and that NLBs and TNRA's are simply being used to determine what specialized knowledge is relevant in the utterance situation.

Moreover, we can look at the kinds of roles ascribed to NLBs and TNRA's by underspecificationists. Bach and Ruhl thought that NLBs and TNRA's provided supplementary content not included in lexical knowledge. Ludlow thought that we needed to provide supplementary content by engaging in negotiation and coordination. Rayo thought that lexical knowledge only provided hints that could be applied in many ways in many different circumstances. Once we see that the lexical knowledge associated with 'openME' has to be able to highlight TV-turning-ons without highlighting anything further, we no longer need to posit the kinds of processes that the underspecificationists posited. Though I may not have provided a knock-down argument showing that NLBs and TNRA's only contribute by selecting relevant pieces of lexical knowledge, I have argued that at least in the case of 'open' we have undermined the need for assigning a further explanatory role to NLBs and TNRA's. We have no further justification to posit further effects of NLBs and TNRA's and hence we have no reason to deny overspecification.

3.2.4.2. Conventions and Naturalness

One might grant that I have shown that there is something conventional going on when we compare the differences in dialect, but hold that this is only a part of the story. It's true that there are cross-dialectal and cross-linguistic differences in how speakers use verbs like 'open'. And it does seem, in the case that I've discussed, that those differences don't arise from NLBs and TNRA's. Still, despite these differences between 'openME' and 'openOVE', there are also obvious similarities

between the two. As I've just highlighted, 'openME' and 'openOVE' are highly similar, only differing in whether they can denote events of a few kinds. One might even say there is something natural about the way the various denotations of 'open' hang together. Even if some particular uses seem to be conventional and exhibit cross-linguistic variation, there might even appear to be a core that is consistent across languages.⁶⁷

As a result, we have two contrasting pieces of data that we need to account for. On the one hand we need to explain the apparent conventionality of particular uses of 'open'. On the other hand we also need an explanation for why many of the denotations of 'open' seem to naturally hang together. Overspecification can account for the former datum—the conventionality. But can overspecification also account for the cross-linguistic similarities and the fact that the various denotations of 'open' seem to hang together?

I think that overspecification, at least in its more sophisticated guises, can accommodate these “natural” similarities. If overspecification was committed to what I called a 'sense-enumeration lexicon' in 3.1.2., where each denotation was specified by non-overlapping lexical knowledge, then it would be a mystery how the various denotations of a lexical item cohere together. We might expect that different languages (especially those from different language-families) would have radically different patterns of denotations. However, I don't see why a sophisticated overspecificationist would tie themselves to a sense-enumeration lexicon. Instead, an overspecificationist can adopt an account, like the one sketched in 3.1.2. where the no individual piece of lexical knowledge associated with a lexical item is necessary or sufficient for specifying a denotation. Instead, specifying a denotation requires the combination of various pieces of lexical knowledge. Some of that lexical knowledge

⁶⁷ Interestingly something similar seems to hold for many of the pragmatic conventions I discuss above. Though there is nothing in NLBs or TNRA's that suggests that repetition should invoke emphasis (as opposed to deemphasis) cross-linguistically repetition tends to be used to emphasize, even though the scope of those uses might differ from one language to another.

might be more abstract. And some pieces of lexical knowledge might be relevant for specifying many of the denotations that a lexical item can have in different utterance situations. However, contra-the underspecificationist, any supplement to the abstract pieces of lexical knowledge would already be part of the totality of lexical knowledge associated with the expression. One possibility is that the more abstract components of the lexical knowledge could be shared across uses, while the more concrete components would be selected based upon the utterance situation. Since pieces of abstract lexical knowledge would be relevant to specifying many different denotations, they can explain why the different denotations seem to hang together.

Such an account squares well with a pretheoretical description of the differences between 'openME' and 'openOVE'. An untutored description of the situation may claim that 'openME' and 'openOVE' almost have the same meanings—their meanings just differ in one part. The overspecificationist can explain the veracity of this description. While the pieces of lexical knowledge associated with 'openME' and 'openOVE' are *almost* the same, they have a slight difference. There is simply a little more lexical knowledge associated with 'openME' that isn't associated with 'openOVE'. But for the most part they are associated with the same lexical knowledge.⁶⁸

Let us move on to the final premise of my argument.

3.2.5. P3. If the lexical knowledge associated with 'openME' includes knowledge which specifies a denotation that includes light-turning-ons and knowledge that specifies a denotation that includes TV-turning-ons then we should adopt overspecification for 'openME' and 'openOVE.'

68 Even if one doesn't want to explain naturalness in terms of overlap in the pieces of lexical knowledge that specify denotations there are other plausible explanations, familiar from standard discussions of cross-linguistic similarities, that are fully compatible with overspecification. There could presumably be innate constraints on the acquisition of a lexicon. If so, the fact that certain pieces of lexical knowledge seems to pattern together might be a result of innate constraints. On the other hand, there could be similarities in the environments within which speakers of languages are embedded, resulting in similar conventions developing in different environments. Given that even speakers from very different cultures and living in different climes share a psychology, aspects of that shared psychology will affect the environment in which lexical knowledge is acquired.

Either innate constraints, or environmental similarities could provide a metasemantic explanation for why certain groupings of lexical knowledge seem “natural” without in any way undermining the claim that those lexical items are overspecified.

So far my argument has had a limited scope. I have argued that the difference in use between 'openME' and 'openOVE' is due to a semantic difference between 'openME' and 'openOVE.' I have also argued that some pieces of lexical knowledge associated with 'openME' specify a denotation that includes TV-turning-ons. To argue for overspecification for 'openME' and 'openOVE', let alone for commonly used verbs in general, I need to claim that my point generalizes. If the difference between 'openME' and 'openOVE' is an idiosyncratic detail of one use of one verb then it could still follow that by and large underspecification holds.

I have focused my attention on one particular example because I wanted to work rigorously through the details of one particular lexical item to really show how denotations must be specified by lexical knowledge associated with the lexical item. That said, differences in the use of commonly used verbs go far beyond this case and far beyond 'open'. The full scope of the differences in the use of commonly used verbs becomes clear if we look at cross-linguistic variation in how commonly used verbs are used. As I discussed above in section 3.2.3.3., anyone who has spent time learning a language post-childhood or who has spent significant time with non-native speakers of her own language will likely have noticed how many mistakes come from the use of an improper commonly used verb. Learning the proper distribution of commonly used verbs is one of the most difficult tasks in learning a new language. Even speakers who are otherwise fluent often struggle with using the correct commonly used verb for a given situation.⁶⁹ According to (Altenberg and Grainger 2001) not only are ESL speakers more likely than first language English speakers to err in using 'make', they are also far more reluctant to use 'make' in many utterance situations.

If learning commonly used verbs only required learning a small amount of lexical knowledge or learning a thin or schematic meaning or putting a couple of bits of information in a grab bag, it

⁶⁹ See (Altenberg and Grainger 2001) for a corpus study quantifying the kinds of difficulties that highly fluent ESL speakers have with the verb 'make'.

wouldn't be nearly so hard for non-native speakers to use commonly used verbs correctly. If the specification of denotations was primarily done by TNRA's using NLBs, it should be easy to acquire the minimal specialized linguistic knowledge required for learning a new language. The widespread difficulty in correctly using commonly used verbs provides evidence that the kind of precisely targeted uses that we saw above are normal for commonly used verbs. Variation in the use of commonly used verbs is not a small quirk of one dialect. Variation in the use of commonly used verbs is ubiquitous. In order to capture the way that commonly used verbs are actually used, we need adopt overspecification. Pieces of the lexical knowledge associated with commonly used verbs can specify highly specific denotations.⁷⁰ We cannot expect to shift the burden of explaining the specification of denotations away from lexical knowledge. TNRA's and NLBs are not enough to explain the ability to use commonly used verbs without rich lexical knowledge. Contra Ruhl, Bach, Ludlow, and Rayo, we can only allow room for context-sensitivity if we accept that specialized lexical knowledge plays a major role in dictating strict limits on that context-sensitivity. TNRA's simply cannot explain the strict and arbitrary constraints on how we can use commonly used verbs.

3.3. Conclusions

Semanticists have often focused on compositional semantics rather than attending to the details of lexical meanings, generally assuming a specificationist account. While a wide variety of thinkers have reacted against specification and embraced widespread context-sensitivity, for the most part they have done so at the expense of lexical knowledge. These underspecificationists hold that lexical knowledge is impoverished and that the work of specifying denotations should be offloaded to

⁷⁰ This isn't to say that relative to some utterance situations some light verbs might have more general denotations. Relative to some utterance situations light verbs might have denotations that include a variety of events of many different kinds. For instance, the events denoted by 'open' as specified to denote door-openings and cabinet-openings might denote a wide variety of events. However it is a mistake to think that most denotations result from adding further conditions to a lexical meaning that specifies the door-opening denotation. The more general use would simply be one among many potential uses. The denotation of 'open' on the general use still must be specified using NLBs and TNRA's to select pieces of lexical knowledge associated with 'open.'

NLBs and TNRA. I have argued, in contrast, that if we want to accept context-sensitivity, we are better off with overspecification. Pieces of the lexical knowledge associated with a lexical item suffice to specify their denotations in many utterance situations. Instead of shying away from lexical knowledge, if we want to understand the details of the constraints on specifying denotations, we are better served by working to develop explicit accounts of lexical knowledge.

My strategy here has been to take a particular case and argue it in detail. I think there is something important to be learned in thinking through exactly why the differences between the ME and OVE uses of 'open' are due to differences in lexical knowledge. By being more careful about what must be in lexical knowledge we can hopefully get a start on developing adequate models of lexical meaning. A major difficulty in lexical semantics is determining what is in lexical knowledge and what is a NLB. My argument shows that despite the claims of the underspecificationists, we need substantial lexical knowledge.

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